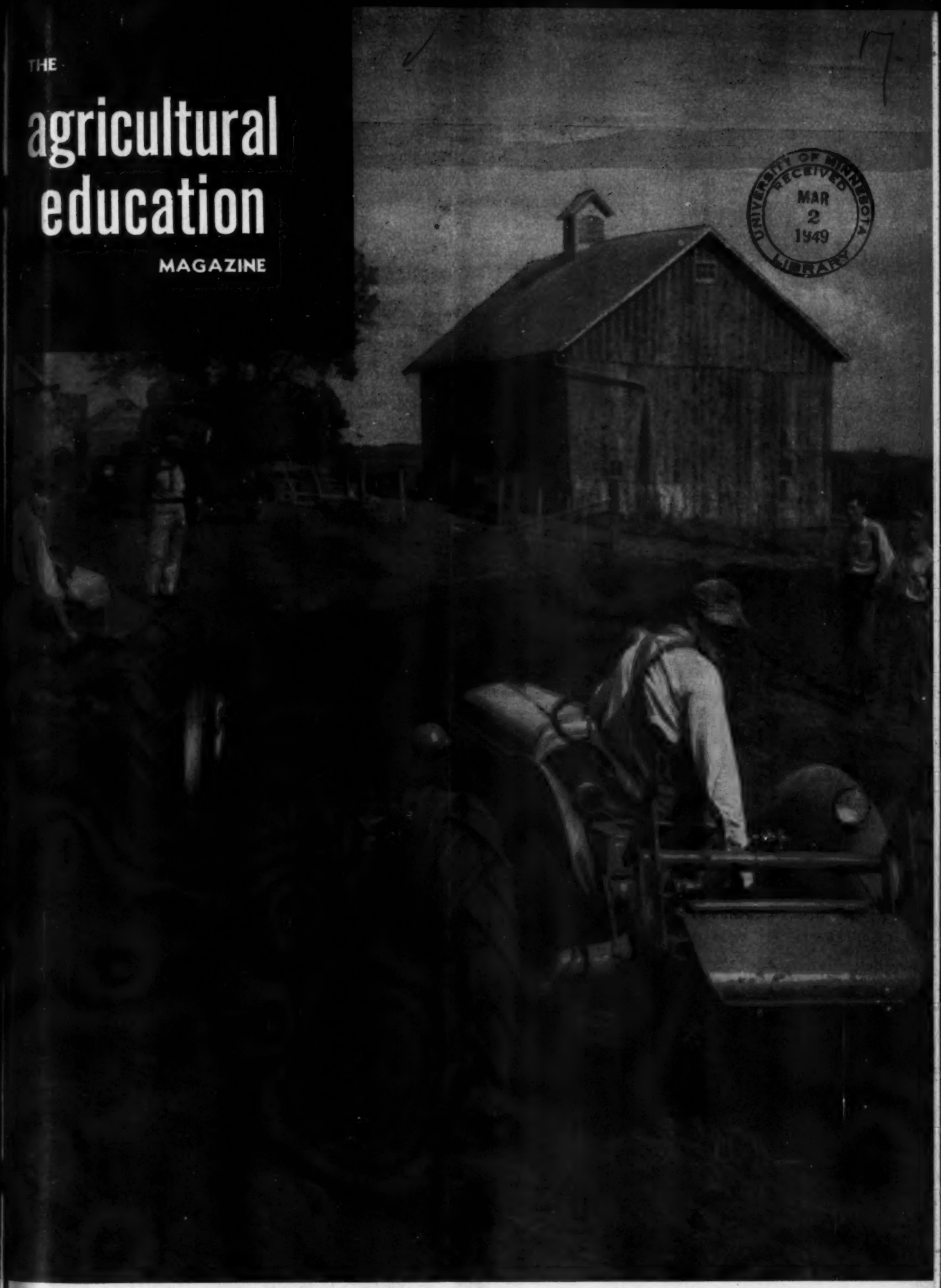
THE

agricultural education

MAGAZINE



The F.F.A. chapter at Lake City, Iowa has cooperated with the Soil Conservation Service in various projects. Story on page 206

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Editorial Comment

Supervised farming and the F.F.A.

C. E. Richard

THE supervised farming program has long been recognized as the backbone of vocational education in agriculture. It is an essential foundation stone in developing outstanding F.F.A. chapters, as well as outstanding individual members. Many have said that an active F.F.A. chapter is the lifeblood of any department of vocational agriculture. No doubt all of these statements contain a large element of truth. To do the most effective job of teaching and to have the most functional department of vocational agriculture, the supervised farming program and the F.F.A. organization are essential and mutually dependent upon each other.

Teaching vocational agriculture without a good supervised farming program conducted by members of the class is like attempting to change an automobile tire without the proper tools. It might likewise be said that teaching vocational agriculture without an active F.F.A. chapter is like plowing for corn with a garden plow in that we could only scratch the surface.

Basic Concept of the Future Farmer Organization

When H. C. Groseclose, the late E. C. Magill, Dr. W. S. Newman, and H. W. Sanders sat down at the square table in the Agricultural Education Department at V.P.I. in 1926 to lay the foundation for the establishment of the Future Farmers of Virginia, one of the fore-runners of the F.F.A., they had in mind that the Future Farmers of Virginia was to be an integral part of vocational education in agriculture. This organization was to provide additional experience for farm boys who desired to become farmers and agricultural leaders, to add dignity to the profession of farming, and to develop a sense of pride in the young American farmer and in the business of farming. Also, it was intended that this organization was to be an intra-curricular activity and not an extra-curricular activity and be a motivating device to inspire young men to greater achievement in their school and farming programs.

The program of work of the F.F.A has as its most highly evaluated objective the supervised farming programs of the members. The four degrees of active membership in the F.F.A. are dependent, to a great extent, upon the supervising farming program of the boy. One cannot advance in the F.F.A. without advancing in supervising farming activities. One of the requirements for the Green Hand degree is to have satisfactory plans for a farming program. For the Chapter Farmer degree, one must have in operation an improved farming program and have earned and saved or have otherwise productively invested at least $25.00 from his farming program. For the State and American Farmer degrees there are still higher supervised farming requirements including greater investment in farming. The September, 1927 copy of the Virginia F.F.V. publication showed that 50 points out of 100 were allotted to supervised farming for the State Planter's degree, now the State Farmer degree. The amount allotted to supervised farming for the present State Farmer degree is 58.

Observations and ratings of F.F.A. chapters and departments of vocational agriculture show us that in most cases those chapters that have strong supervised farming programs have strong F.F.A. chapters and vice-versa. They are so closely related that one does not function well without the other. Both are needed in the training of our young farmers because to be a successful farmer one must also be a well rounded and successful citizen. They can and should be a help to each other. The F.F.A. organization can stimulate interest in planning farm programs, participation in contests, exhibiting agricultural products, cooperative buying and selling, publicity, developing sound supervised farming programs and in many other ways. On the other hand, supervised farming offers one of the best opportunities for promoting initiative, thrift, responsibility, preservance in the face of difficulty and failure, ability to cooperate and work with others, ability to think clearly and plan thoroughly and well, and an opportunity to advance in the F.F.A.

During the war years with so many emergency programs and other activities taking much of the teachers' time, and with a large number of emergency teachers without the proper training and background the supervised farming programs and F.F.A. activities were not held on a par with pre-war years. Many chapters were almost inactivated and in too many cases supervised farming programs were neglected. They suffered from a lack of adequate selection, planning, and supervision. Should we not re-evaluate these two programs to determine whether we are making the maximum use of them? In so doing every teacher of agriculture should ask himself the following questions: (1) Are my chapter activities on a par with the capabilities of its members? (2) Are the supervised farming programs as strong as they should be? (3) Do they both offer a real challenge to the best thinking and efforts of those concerned? (4) Are the farming programs properly selected and thoroughly planned? (5) Am I doing a thorough job of supervision or am I spending my time doing less important things? An analysis of the activities of teaching of agriculture, in many cases, will reveal that other activities are crowding out the most basic and fundamental tools at our disposal to do a real job of training young men.

If we are to go forward in vocational agriculture, we must realize the importance of and necessity for practice by our farm youth under proper supervision. This is our best method of teaching and teaching is our job. We in vocational agriculture should be very happy and proud because we have at our disposal the best teaching material and training facilities available to any people in any land, the American Farm. We also have on this land the most cherished, resourceful, and democratic group in any nation, the American farm youth. The challenge is ours to advance to higher levels of attainment.—C. E. Richard, Virginia Polytechnic Institute, Blacksburg, Virginia.

Glen C. Cook

THE PASSING of G. C. Cook, who for several years was a member of the teacher education staff at Michigan State College, leaves a gap in the profession of agricultural education which will be hard to fill. His untimely death on January 21 was due to a heart attack.

Perhaps Mr. Cook was best known for his writings. He pioneered in this field, having produced the first edition of the Handbook for Teachers of Vocational Agriculture in 1933. Outside of his many books, Mr. Cook wrote extensively for professional journals and served as a departmental editor for the *AVA Journal* and for *Better Farming Methods*.

Mr. Cook was reared in Nebraska and earned the B.S. and M.S. degrees from the University of Nebraska. He had nearly completed the requirements for the Doctor's degree at Michigan State College. Mr. Cook began his teaching career in a rural school in Nebraska and served as a teacher of vocational agriculture in Nebraska for five years. Before becoming associated with the department of agricultural education at Michigan State College in 1938, he was connected with the supervisory and teacher training staffs in North Dakota and with the department of agricultural education at the University of Hawaii. During the war period he took a leave of absence from Michigan State College to act as an area supervisor in the war training program.

Manuscripts ✣ A.V.A. Convention

Organizing instruction for veterans

J. EARL WILSON, Instructor Vocational Agriculture, Columbus, Indiana

Carl Wilson

We are including in this issue several of the manuscripts presented before the Agricultural Section of the A.V.A. Convention, held at Milwaukee, Wisconsin, November 29-December 4, 1948. Additional papers given at the convention will be used subsequently in different sections of the magazine.

IN my opinion, organizing instruction for Institutional On-Farm Training involves the consideration of several basic factors.

It is reasonably safe to assume that practically all veterans enrolled in training will continue to live in or near the area in which they are now located. Based on this assumption, the first factor for consideration involves an understanding of the agriculture of the community and the people of the community. A working knowledge of these two items requires the assimilation of a considerable amount of data.

In addition to soil, crop and livestock data, the attitude and nature of the people in a community, influence the extent to which a program can be carried out. Locally we are quite fortunate in this respect since the county has a large Farm Bureau membership, an outstanding rural youth organization, a large home economics club, together with a high 4-H club enrollment and one of the largest Grange organizations in the middlewest. Despite the similarity in goals of these organizations, there is a minimum of conflict among them, which is indicative of a good, cooperative spirit.

Needs of the Trainee

The second factor deserving our consideration is the needs of the trainee. The individual's prior training and experience in agriculture, or related work (both in school and as an operator), his present farming status together with his probable future, and his individual interests or preferences should all be considered in determining his needs. Keeping these things in mind, the needs of the trainee, it seems to me, can be grouped into six general integrated categories.

1. The need to recognize the systems of agriculture and the methods of transition from one to the other.

   By systems, I refer to the various methods, from the hired hand on through the share-cropper and tenant by which an individual may attain the goal of owner-operator. The present farming status of the individual governs the amount of initiative and judgment that can be exercised in developing managerial skills.

2. The need for technical information and how to coordinate it with his practical knowledge toward application.

   Seldom is a farm veteran interested in technical knowledge just for the sake of knowledge. Technical information must be of practical value before he is enthusiastically concerned.

3. The need for an understanding of the differentation between an operative and a managerial skill.

   The best tractor operator is not necessarily the best manager. Managerial skills are not directly proportional to age, either. Normally, wisdom arrives with old age; however old age may arrive alone.

4. The need for a knowledge of general economic factors that affect farming but over which the individual alone has no control.

   It is possible, however, for him to adapt his farming to take advantage of these influential factors.

5. The need for an eagerness on the part of the individual to keep pace with changing agriculture in a changing world.

   Some of the practices we teach him today may not necessarily be those involved 20 years from now, but we can encourage him to become his own teacher.

6. The need of inspiration for desirable community activities and cooperation.

   Competition among farmers does not prohibit their futhering common interests through community cooperation.

Facilities of the Trainee

The fulfillment of a need can normally be accomplished only through the wise use of available tools. In view of this, our attention is naturally turned toward the facilities of the trainee. Soil type and fertility, of course, should receive priority here, but in addition, there is much information necessary for planning that can probably best be secured by asking ourselves these questions:

1. Do existing soil conditions justify the crops being produced?
2. Has the livestock program been developed to fit the soil and crops?
3. Is there sufficient labor and machinery to produce, harvest and market the crops and livestock that are adapted to the soil?
4. Are labor, power and land being utilized to their fullest extent?
5. Are the farm buildings and farm layout adequate and efficiently arranged?
6. Does a wholesome desire for community activities exist?

Facilities of Training Center

Now that we have learned where the trainees are on this graduated farm ladder and have determined their needs, let us establish our goals and attempts to furnish the trainees the tools whereby they can attain these goals. Let us now consider the facilities of the training center. First of all, in my opinion, a minimum of 80 per cent of all class instruction should be prepared, organized and presented by the instructor; the other 20 per cent should definitely be a result of his coordinated planning, and also be presented under his direction and supervision.

There are several sources from which outside assistance can be obtained. The agricultural extension service, in cooperation with the state agricultural college may furnish many learning activities by conducting periodic extension schools and field trips. The Farm Bureau has a number of interesting and educational facilities that are available for only the asking. Marketing commission firms, also, are quite willing to arrange worthwhile tours and discussions.

In our case local chapters of the Kiwanis, Rotary and Lions clubs have been helpful by inviting us as a group to attend their agricultural sessions. Although we do not have a local soil conservation district, I am sure their services would be beneficial. In addition to the services already mentioned, we can obtain valuable assistance from successful farmers in the community. They often can provide good, proven and practical ideas. The farmers' presentations may be a little rough but here, again, is where the instructor's direction and supervision play a big part.

Course of Study

With the foregoing factors in mind, we now turn our attention to planning a course of study. This involves the assimilation, organization and coordination of all facilities into progressive learning activities that will help these farm veterans achieve their goals.

We have a total of 105 veterans in training in our county, 80 of whom receive their training under the direction of the Columbus city schools. A nearby township high school serves as the training center for the other 25. Three, full-time vocational teachers are employed at Columbus. Our first two classes were started in April, 1946; consequently 2/3 of the veterans have already completed 2¼ years of training. We have divided the 250 hours of organized instruction into three categories:

1. Class-room activities.....165 hours
2. Extension activities..... 35 hours
3. Group instruction outside the class room..... 50 hours

Our aim during the first year was to present and discuss a general, over-all picture of agriculture in order to give the veterans a refresher course and at the same time help us to determine

the areas in which teaching was most needed. To accomplish this, we divided the first year's work into five general topics.

1. Farm Management
2. Crop Production
3. Livestock Production
4. Conservation of Natural Resources
5. Farm Mechanics

Each unit, with the exception of Farm Mechanics, received 30 hours of classroom instruction and about 20 hours of either extension or group instruction. Because of its time consuming nature, 45 hours were allotted farm shop.

Instructional Periods

Class-room instruction during the first year consisted of 15, two-hour lessons for each topic. Taking Livestock Production as an example, 7 lessons were allotted to hogs; beef cattle received 3, dairy and poultry 2 and sheep 1. In an area where livestock value approaches the value of all crops harvested one, of course, cannot expect to much more than scratch the surface in 15 lessons, but bear in mind that our main objectives for the first year were to help solve the veterans immediate problems, find where the greatest needs were and then plot our future course. Our second and third years have been devoted to a more detailed discussion of specific subjects. Again taking Livestock Production as an example, at the end of the third year the veterans will have received about 60, two-hour lessons on hogs, 25 on beef, 25 on dairy, 15 on poultry and 4 on sheep.

Dairy and poultry received more lessons in proportion than did some of the other livestock enterprises because we feel that locally there is more room for improvement in these enterprises than the others. More than half the instruction during the second and third years was devoted to the care, feeding and management of livestock. This was done because we feel there are far more problems concerning livestock management than crop production. The remainder of the time, of course, was devoted to crop production and soil management. Our crop production program would also, on the surface, appear to be somewhat out of proportion, but we have tried to emphasize the value of permanent pasture and rotation pasture in the cropping system.

In our farm management course during the first year we were primarily concerned with record-keeping and analysis procedures. The veterans were given practice record books in which they were required to enter and analyze the records of a hypothetical farm. At the close of these exercises, they were given record books for use on their own farms. The mere placing of record books in the hands of individuals does not, however, necessarily guarantee their keeping accurate, useful records; so throughout the year we held additional class sessions to which the veterans brought their record books for inspection and a discussion of any problem concerning them. By these periodic discussions we hoped to instill in the trainees the habit of keeping good records and an appreciation of their value.

Since agriculture is becoming more and more a highly mechanized business, farm shop, I believe, constitutes a vital part of the training program. Our farm shop course was taught by the farm shop teacher of the regular day school. To me the outstanding feature of this class was the teaching method employed. A minimum of standardized job exercises were involved, based on the assumption that an individual learns best while doing. Not only is he learning the nature of the material being used and becoming acquainted with the operation involved, but at the same time constructing a useful product. Many of the items produced in farm shop were constructed to fit the job or, in other words, made to order. Since they were not of standard design, they were not available ready-made anywhere. In my opinion, farm shop has allowed many of these veterans to exercise a creative initiative that otherwise would have gone untouched during the training program.

Although our fourth year's work is still in only the tentative planning stage, we intend to devote it entirely to a discussion of farm management and rural sociology in an attempt to tie together, and possibly add to, the material previously discussed.

Unit Development

The sixth factor deserving our attention is the development of a unit of instruction. In doing this we have attempted to get an accurate survey of existing conditions by personal observation, by consultation with the advisory committee and by doing some actual research work of our own. Individual folders for the veterans have been prepared which contain information concerning their farms such as farm layout, arrangement of buildings, soil tests results, fertility balance sheets, crop and livestock systems and present efficiency ratings based upon productive man work units. Although these folders were primarily intended to facilitate individual instruction, they have been invaluable in helping us plan a unit of class-room instruction. Another method we have used frequently is to ask the trainees to submit questions and problems concerning the unit to be discussed. In reality most of our teaching revolves around problem solving; so a knowledge of their problems is highly important to us. We have been well pleased with the results obtained by pulling out these individual problems for group discussion.

Coordination of Related Instruction

The most difficult, yet highly important, phase of unit development is the coordination of related group instruction with class-room procedure. We have tried to solve this problem by three methods: First, by taking future inventory of the related instruction that may be offered by the various organizations outside the school. Second, by close observation we have found farms that provide educational field trips because of the good crop or livestock management practices being followed. Third, in cooperation with the veterans we have actually created a portion of related instruction by conducting various farm experiments that involve a minimum of financial risk to the operators and yet helps us clinch a part of our teaching. These demonstrations include the following:

1. Variety, fertilizer application, and rate of planting corn and small grains
2. Permanent pasture renovations
3. Spraying corn with 2,4-D for weed control
4. DDT spray for fly control
5. Soil conservation practices by contour farming and the construction of diversion ditches

These activities outside the class room not only provide a wholesome variety of subject material, but also, in a large measure, represent the application phase of some of our teaching.

These are the bases upon which we have organized our present program.

My final thought is this and I would like to emphasize this one point. No class room procedure, or group instruction method, regardless of how perfect, is any more effective than the degree of individual follow up which is employed.

BOOK REVIEWS

FARM MANAGEMENT HANDBOOK, by I. F. Hall and W. P. Mortensen, pp. 575, illustrated, published by The Interstate Printers, list price $3.15. The book is divided into four parts plus an appendix.

Part I—Things to consider before starting to farm and ways of getting started.

Part II—Organizing and managing the farm for success.

Part III—Adjusting the farm operations to market and price conditions.

Part IV—Soil conservation; farm records; making farming attractive; safety and insurance against risks; and farm ownership.

Appendix—More than 100 pages are devoted to the appendix. Five areas of information are adequately presented in this section of the text, namely; general economic information, crops, livestock, miscellaneous information, and business law and legal matters. Samples of items treated in the appendix are; check list for making a farm lease, check list for buying a farm, machinery rental charges, farm income by states, symptoms of hunger signs in plants, composition of fertilizer materials, land measure, concrete mixtures, and many useful tables.

This book is what the authors term it, a "Handbook," and should prove useful to teachers of vocational agriculture, to veterans-on-farm training students and teachers, and to farmers and agricultural education workers.

—A. P. Davidson

A shipment of 23 registered Holstein heifers from Welland County, Canada, was distributed recently among veterans enrolled for on-farm training in Jefferson County, Pennsylvania. This is the second importation of Candian Holsteins obtained by this Pennsylvania group.

The dates for the next National F.F.A. convention have been set for October 10-13, 1949.

Securing and training instructors for institutional on-farm training

E. P. HILTON, State Supervisor, Frankfort, Kentucky

E. P. Hilton

THE instructor is the key to the success or failure of the institutional on-farm training program for veterans. He is employed to teach. No teaching is done unless learning takes place. Desirable learning brings desirable changes in the individual — changes in his behavior—changes in his attitude —changes in the way he does things. These changes mean the difference between success and failure of the individual and will have a profound influence on the future of agriculture in America.

The institutional on-farm training program is full-time training in farming for adults who are ready for and have entered upon the vocation of farming. This is no small program, nor is it a program that has developed over a period of years, but a nation-wide training program that has grown up almost overnight. In Kentucky, 7.5 per cent of all farm operators are enrolled for instruction. When we consider that this program is not yet three years old in any state, and in many states not yet two years old, we can begin to realize the tremendous development of this educational program for adult farmers.

The increase in size of the program has been made in spite of the shortage of trained teaching personnel. When the first classes were organized, there were not enough teachers to operate the regular program of vocational agriculture in the high schools. The demand for programs of instruction in vocational agriculture for veterans was great. The conditions in each state were different and each state worked out its own problems.

Experiences With State Program

In discussing this problem, I can give you only the way we are handling it in Kentucky. There were not at the beginning, and are not now, enough qualified teachers to instruct the persons who are eligible for and desire to receive instruction. The highest standards for instructors, consistent with meeting the demand for instruction by veterans within the time provided by law, are being maintained.

The securing of instructors has been not a matter of selection but a matter of recruiting and training. In the beginning we were able to secure a number of men with at least some training in agriculture (in most instances at least two years) and give them a 2½-week, six days per week, intensive agricultural education course before beginning work. Today, except in cases of extreme emergency, no one will be accepted for this course with less than a B.S. degree in agriculture.

No adequate means of selecting instructors, except on the basis of experience and training, has been found; but once a teacher has been selected and given training, both pre-service and in-service, he must be able to teach. He cannot *teach* until he has demonstrated to the trainees that he knows his technical agriculture and is interested in their progress and development. Instructors who are unable to at least do a fair job usually ask to be released. Only in a few cases has it been necessary to ask an instructor to resign.

Phases of Instruction

Our training program has given us a unified program of instruction over the state. It consists of:

1. A pre-service course in agricultural education of 2½ weeks
2. Supervision and help from regular teachers of vocational agriculture
3. Monthly in-service training meetings of a minimum of three hours by teacher-trainers and supervisors
4. Lesson-plans and teaching materials prepared by teacher training staff
5. Help by supervisors on visits to departments
6. Intensive summer school courses

Pre-Service Training

The pre-service professional training for instructors for the institutional on-farm training program should be different from the training of instructors of our all-day and young farmer classes. The high school boy, in many instances, has made no definite decision as to what he is going to do, or if he has decided, he is not mature and settled. The veteran has seriously entered the vocation of farming. He has the facilities for farming and, in many instances, is married and head of a family. He knows what he wants to do and we must give him the training immediately which will enable him to meet his objective. The 2½-week pre-service training course is to help the instructor know the program. In this course, an attempt is made to develop an attitude on the part of the instructor to *teach*—to get into practice the approved methods of farming, to help the trainee make farming plans, and to carry out the practices necessary for successful establishment and progress in farming.

Supervision and Help from the Regular Teacher of Vocational Agriculture

The institutional on-farm training program is a part of the program of vocational agriculture in the regular high school. The regular instructor in vocational agriculture is the head of the department; additional help is given him in the form of additional instructors to help carry out the total program in the school. The veterans instructor is a member of the staff. The head teacher of vocational agriculture has staff meetings at least once a week. Many teachers have staff meetings more often. In the staff meetings, lesson plans are discussed and the work for each is decided. Methods of teaching and the use of teaching materials are discussed. At the end of the staff meeting, each instructor knows what he is to do for the coming week and what results he is expected to get from the class instruction.

Supervised farm visits are also discussed. Problems encountered by individual trainees are brought up for group discussion, and the benefit and experience of all the teachers are brought to bear on these problems. All veterans classes in Kentucky meet on Saturday morning. This enables the regular teacher of vocational agriculture to visit the classes; in this way he can assist the special teachers in improving their methods of instruction. It also helps him to keep abreast of the development of the program. The regular teacher of vocational agriculture also visits each veteran at leâst once on his home farm with the veterans instructor. This enables the regular teacher of vocational agriculture to assist the veterans instructor in improving his instruction on the supervised visits to the farm. Since the supervision and direction of the institutional on-farm training program require quite a bit of the time of the regular teacher of vocational agriculture, provision is made for the veterans instructors who are qualified teachers of vocational agriculture to assist the regular teacher in carrying out some of his work. Many veterans instructors teach one class in vocational agriculture for high-school boys, thus relieving the regular teacher in order that he may give time to the veterans program.

Monthly In-Service Meetings

Instructors employed to teach veterans are required to attend monthly district in-service meetings held by teacher trainers and supervisors. The teachers meet in some central location in each of the nine districts and receive instruction from the teacher training staff or a member of the supervisory staff. Methods of instruction and the use of teaching material are discussed. The monthly in-service meetings have enabled the teacher trainers and supervisors to train veterans instructors; this has been one of the most important phases of our training program, and has probably given us the greatest results in the improvement of instruction.

Lesson Plans and Teaching Materials

A four-year course of study has been made which provides for instruction in the most significant phases of farming without undesirable repetition, regardless of the year a man enters or the length of time he remains in training. A course outline has been developed for all high schools offering the institutional on-farm training program. Any school may work out a change in this outline and present it to one of the state supervisors for approval. To date, no changes have been submitted. Since the same course outline is being followed throughout the state, the teacher training staff has been able to prepare lesson plans and teaching materials which can be adapted to any high school in the state.

The lesson plans, by enterprises, are discussed with the instructors at the monthly meetings prior to the time they are to be used. Not only are lesson plans

(Continued on Page 201)

Criteria for evaluating outcomes of individualized courses of instruction in vocational agriculture*

GORDON I. SWANSON, Teacher, Alexandria, Minnesota

Gordon I. Swanson

THE purpose of this report is to summarize a series of investigations on the problem of evaluation. These investigations represent the joint effort of four teachers of agriculture in a department in Minnesota[1]. There was no attempt to conduct a complete study. It was merely an attempt to establish evaluative criteria for individualized sources of study applicable to a complete program of vocational education in agriculture on a local level. An effort was made to establish criteria that are continuous in order that the degree of worthwhileness of the teaching processes and learning experiences may be measured continuously as the student progresses from high school classes into young farmer and on to adult groups.

Educators are not entirely in agreement on the question of evaluation. Some denounce marks, grades, and promotions as merely as a hurdle for students to get by. Others look upon evaluation as the only means for intelligent modification of educational procedure. We, in vocational agriculture, have an opportunity to be less guilty of flagrant misuse of evaluation since we have more opportunity for functional evaluation. We are in general agreement that learning takes place only as it becomes a part of experience resulting in changes in behavior. Outcomes, therefore can and should be observed and evaluated where learning becomes a part of experience whether in the classroom, laboratory, or on the farm.

The investigation makes no attempt to establish criteria for evaluating methods of procedure.

Hypothesis Implied

The implied hypothesis may be phrased into two "If—then" statements. The first: "If we are to approach our objectives in vocational agriculture, then, we should continually evaluate our progress in terms of individual outcomes." Certainly any program of evaluation should constitute a continuous examination of accomplishments in terms of objectives. Likewise it should be a part of and a measure of programs of long-time and annual planning. How then, should we measure the effectiveness of a teaching process or a learning experience? Are we interested in evaluating our program in terms of inputs or shall we concern ourselves with outputs? A profusion of descriptive material might be gathered under the classification of inputs but it could hardly by calculated to result in approaching a goal of proficiency in farming.

The second hypothesis follows: "If we are to effectively carry out a complete program of vocational agriculture, then the program of evaluation must be continuous and evaluative criteria so arranged as to provide continuity as the student progresses from his work in high school classes to an established adult farmer." An effort was made to establish criteria that were inclusive and based on the characteristics of superior farming programs. Criteria were first established for adult farmer groups, then for young farmer groups, and lastly the high school group. The order was purposely reversed to faciliate the maximum continuity among and between the criteria as applied to each of the phases of a complete program of vocational agriculture.

Criteria for High School Group

In this summary, the evaluative criteria for the high school group will be given first, followed by the young farmer group and the adult group.

Following are the basic criteria used to evaluate the teaching processes or learning experiences in vocational agriculture for F.F.A. classes.

I. Classroom Work
   - A. Examinations (also used as a teaching device)
   - B. Participation
     This includes participation in discussions, F. F. A. committee activities, etc.
   - C. Attitude

II. Farming Program
   - A. Planning
     Planning is evaluated primarily on its presence or absence. Quality will be evidenced by progress and measured further by the evaluative criteria listed elsewhere in this article.
   - B. Organization of the farming program
     1. Size and scope
     2. Ownership and managerial responsibility
     3. Continuity and expansion
        The farming program should be a continuing program and should expand in size, scope, ownership and managerial responsibility, The organization of the farming program therefore, will vary with the degree of expansion.
   - C. Approved farm practices
     Since approved farm practices are the backbone of improved farming, they must necessarily be considered one of the major determinants of good individual farm practice programs. The number of approved farm practices adopted in relation to need should be the deciding factor.
   - D. Farm or enterprise records
     Outcomes to be evaluated should be substantiated with records. Beginning students may confine themselves to enterprise records. More advanced students may consider the entire farm as their programs expand. Outcomes may be evaluated on the basis of the students ability to:
     1. Keep records
     2. Use records for further planning
   - E. Efficiency of production
     Even a large and growing farm practice program will possess little virtue unless there is efficient production. Proficiency in farming depends on efficiency of production. Measures of efficiency should be simple and easy to compute. Examples of measures of efficiency for F.F.A. groups are:
     1. Average daily gain for livestock
     2. Pigs per litter
     3. Weight of litter at 56 days
     4. Weight of lambs per ewe at 135 days
     5. Crop yields
     6. Mortality in chickens
     7. Eggs per hen
     8. Butterfat per cow
   - F. Financial progress
     Financial progress may be a measure of the worthwhileness of learning experiences in so far as students are motivated by momentary gain. It may be measured in terms of:
     1. Net worth
     2. Earnings

     Supervised farming programs, however, may show continued expansion without showing marked financial progress, especially if the expansion is in the form of improvements (windbreaks, work simplification, farm practices, etc.)
   - G. Home farm improvements
     The measures to be observed in this category are varied and rather inclusive. They may include the so called improvements projects and supplementary farm practices. Further examples may be farmstead beautification, weed control, farm work simplification and conveniences within the home. This category may have special significance in evaluating farming programs where the physical limits of the farm does not permit a farming program as large as might otherwise be carried.
   - H. Leadership activities
     Leadership activities as an outgrowth of a teaching process or learning experience should ultimately establish the student as an effective leader and participant in the civic, social and economic affairs of his community. On the high school level it may be observed as:
     1. Offices and chairmanships

(Continued on Page 207)

*A summary of investigations presented at the A.V.A. Convention, Milwaukee, Wisconsin.
[1]Gordon Swanson, C. J. Hemming, R. A. Ahlfors, and A. A. Paciotti.

The promise of the research approach*

GEORGE P. DEYOE, Teacher Education, University of Illinois

In considering the promise of the research approach, it seems desirable to consider two primary questions:

1. What have we accomplished through research?
2. How may we use research to increased advantage in our field?

What Have We Accomplished Through Research?

George P. Deyoe

WE can take considerable pride in the research that has been completed in agricultural education during the past quarter of a century or more. This is not to say that all research that has been done is equally valuable or that we have made the best possible use of the findings of research. However, as we look back, we find that 757 studies were reported in the first two volumes of summaries of research in agricultural education,[1] and summaries of 284 additional studies are compiled for a publication now in press. These make a total of 1,041 studies thus reported up to the latter part of 1947. During the war years, we were faced with depleted staffs and increased responsibilities, as well as greatly reduced numbers of graduate students. In spite of this, about as many research studies were completed during the period starting in 1941 and ending in 1947, as during a similar period just prior thereto.

In order for us to look to the future, it is well for us to review and evaluate our accomplishments of the past. Some of the significant research studies up to 1941 are included in a comprehensive review by Smith.[2] A similar type of review of some of the important studies completed since that time was prepared by Martin.[3] Hamlin made a comprehensive review of research in agricultural education, which appears in the *Encyclopedia of Education Research*;[4] a similar section has recently been prepared by Deyoe and Hamlin for a revised edition of this publication, now in press. These indicate some of the significant findings of research and to some extent how these have affected practice. From these summaries, as well as a general overview of how research has affected our field, it seems justifiable to conclude that research has "paid off" in various ways. The following appear to be some of the ways in which research has influenced our field:

1. Adapting agricultural education to community situations
2. Selecting and organizing instructional materials for meeting the needs of particular groups
3. Providing guidance prior to and following enrollment in vocational agriculture
4. Using improved techniques for evaluation
5. Extending the use of the activity approach to learning, through broadened programs of supervised farming and related activities
6. Improving teacher education on the pre-service and in-service levels
7. Improving education of out-of-school groups

In all of the above phases, research should bring about further improvement. No doubt, there are other ways in which research has affected practice, and certainly the future holds possibilities for many additional improvements which grow out of research.

Shortcomings of Research in Agricultural Education

In looking at our accomplishments to date, it is well to mention some of the shortcomings of research as it has been conducted and used in our field. In indicating these, it should be recognized that for most of them, some notable exceptions can be found. The following are some of the chief shortcomings:

1. A few techniques of research seem to have been widely used, perhaps overused, and too little use was made of other techniques of promise.

   A sample of 50 out of the 84 recent studies shows that the survey method has predominated in well over half of them, with the questionnaire or conventional check list as the chief form of the survey. In nearly two-thirds of this sample of studies, one technique only was used primarily or exclusively in each study.
2. Most studies have been of short duration, with few of the long-time type. Over 9 per cent of the sample analyzed were definitely of a short-time type as far as the period for collecting data was concerned.
3. Relatively few studies have been made by trained research specialists.

   In the sample of 50, about three-fourths were made by graduate students as thesis studies or special problems to meet requirements of advanced degrees. It is not intended to discredit studies of the thesis type, but merely to suggest that the proportion of the studies made directly by persons who have had specialized training in research might be increased.
4. The research studies taken as a whole do not appear to be well distributed over the entire field of agricultural education.

   Studies of objectives comprise less than two per cent of the 1,041 studies to date. Only about 12 per cent deal with out-of-school groups. Even though supervised farming is considered by many people as being basic to effective instruction, less than ten per cent of all studies to date have been in this field. The number of studies in measurement and evaluation seems to have steadily decreased in recent years, even though many people are frequently raising questions or in other ways are concerned with this phase.
5. Not enough use has been made of the findings of research by persons in our field.

   We still find many practices in our field which could be refined or otherwise improved if increased use were made of the findings of research to date. This is true of almost any major phase we might mention.

How May We Use Research to Increased Advantage?

We need to remind ourselves that research is not an end in itself. Its justification lies in its potentialities for improvements and the extent to which it actually contributes to improvements in our field. Therefore we should be concerned with making maximum use of the results from research conducted to date and plan our efforts for the future so that the pay-off will be increasingly greater. The following are offered as suggestions:

1. Give careful attention to the selection of problems.

   Some progress has been made in certain states by the formation of state research committees for guiding research and by careful selection otherwise of the important problems to which research should contribute. The development of lists of problems by regions has also been helpful.

   The kinds of problems which are most important at one time do not necessarily continue to be the most important. In order to give an up-to-date, "grassroots" approach to problems of significance in the United States, the writer recently wrote to the supervisors and teacher trainers in every state. Replies were received from 52 persons in 37 states and the Washington Office. These persons were requested to list pressing problems which may be solved at least in part by research. Among these problems, the following three were each given recurring emphasis in one form or another by 12 or more persons:
   a. Making the transition from the institutional on-farm program for veterans to a permanent program for out-of-school groups.
   b. Determining and analyzing the total work load of teachers of vocational agriculture.
   c. Evaluating and improving programs of teacher education.

   Several additional problems were listed by five or more persons. These include the following:
   a. Strengthening local administrative relationships
   b. Determining educational needs of out-of-school groups
   c. Selecting and allocating materials for courses
   d. Current needs for instruction in farm mechanics
   e. Evaluating the institutional on-farm program for veterans
   f. Evaluating local programs of vocational agriculture
   g. Evaluating and improving student teaching

*Presented to the Agricultural Education Section, Convention American Vocational Association, November 30, 1948.

h. Evaluating and improving awards and contests
i. Developing effective supervisory techniques and relationships within states
j. Developing an effective in-service program for teachers
k. Developing techniques for selecting prospective teachers

2. Select and develop appropriate techniques of research.

As previously suggested, there seems to be a tendency to use some techniques almost exclusively and to overlook some techniques of promise. Furthermore, there is a tendency to use a single technique in a given study, when two or more techniques might provide a more adequate body of data.

In the response from teacher trainers and supervisors, many techniques were listed as being of value. The following were indicated and merit our consideration, along with the conventional survey and questionnaire techniques, as we plan new research studies and select the techniques appropriate for them:

a. Interviews and opinion polls
b. Causal-comparative technique
c. Case studies for individuals, groups, and situations
d. Development and pilot centers
e. Experiment
f. Jury of experts
g. Evaluative techniques with present devices and with devices of new design
h. Analysis of various forms of data now available

For many studies it would seem desirable to use a multiple-technique approach. Data thus collected are likely to be much more complete and comprehensive. For example, in a study of the institional on-the-farm program for veterans and its implications for the future, it seems desirable to use techniques such as surveys of various types (including public opinion polls and interviews), evaluations of outcomes, analyses of methods and courses of study, case studies, development or pilot centers, and perhaps others.

More Extended Studies Needed

There seems to be a place for more research studies which extend over a longer period of time with continuous or periodic collection of data. We have to date only a few examples of this type.[5] Pilot centers for various purposes, studies of progress toward establishment in farming, and studies of occupational choices are examples of undertakings which could well be conducted over a period of years.

3. Coordinate research efforts over larger geographical areas.

We have some examples of effective research projects conducted on a regional and even a national basis.[6] It would seem desirable to have more of these.

Regional workshops are recent developments which aid in coordinating research by regions. These serve as clearing houses in selecting problems and deciding which ones to attack cooperatively, in discussing and reporting on current efforts, and in considering additional ways of improving research and using the results most effectively.

4. Ear-mark funds and set aside staff time for research.

We have too few instances where funds and staff time have been definitely allocated for research, at least on a comprehensive basis. Research specialists in some states who devote much of their time to research are making valuable contributions, but we need more time for research by many teacher trainers and supervisors. As we secure increased funds which were authorized by recent legislation, consideration should be given to the ear-marking of amounts more nearly adequate for the research which should be done.

5. Plan for the effective use of research and research results by many persons in our field.

As we work with teachers in graduate courses and on the job, we can encourage them to select and study their own problems. The results of past research and the pursuit of additional research should be incorporated in these efforts.

In our undergraduate and graduate courses, frequent reference should be made to the results of past research which has a bearing on the phases under discussion.

Completed research studies should be written or rewritten in a popularized style and made available through our professional journals and other publications. Suggestions for using the results should be incorporated in these reports.

Integrated summaries of related research studies should be made from time to time to note how the findings "add up" and how these consolidated findings may be utilized to the best advantage.[7] Other suggestions for the effective use of the results of research have been indicated elsewhere by the writer.[8]

In these and other ways, we may appraise and use the results of past research and make improved plans for the future. Thus, the "promise of research" may be translated into a realistic basis for action from which we should reap increasing benefits as time goes on.

References Cited

[1] *Summaries of Studies in Agricultural Education*, Voc. Ed. Bul. 180, U. S. Office of Education, 1935, 196 pp.
Summaries of Studies in Agricultural Education, Interstate Printers and Publishers, Danville, Ill., 1943, 199 pp.

[2] Smith, W. A. "Agricultural Education," *Review of Educational Research*, Vol. XIV, No. 4, October, 1944, pp. 327-336.

[3] Martin, W. Howard, "Agricultural Education," *Review of Educational Research*, Vol. XVII, No. 3, June, 1947, pp. 240-250.

[4] Hamlin, H. M., "Agricultural Education," *Encyclopedia of Educational Research*, pp. 32-40, The Macmillan Co., 1941.

[5] Two examples are the following:
Anderson, C. S., *Young Men Ten Years After Leaving Pennsylvania Rural High Schools*, Bul. No. 468, School of Agriculture, Pennsylvania State College, 1944, 29 pp.
Hamlin, H. M. "Three Years of Program Planning and Evaluation," *Agricultural Education Magazine*, September, 1945, p. 56.

[6] Lathrop, F. W., and others, "An Evaluation of 400 Local Programs of Vocational Education in Agriculture in the United States," Misc. 3233, U. S. Office of Education, 71 pp.
Lathrop, Frank W., *Effectiveness of Vocational Education in Agriculture*, Bul. 82, U. S. Federal Board of Vocational Education, 1933, 19 pp.
Lathrop, F. W. and Clough, E. B., "Apprasial of the Food Production War Training Program," *Education for Victory*, Vol. 3, June, 1945, pp. 1-5.
Naugher, K. E., "Summary of Veterans' Farm Training Study," *Agricultural Education Magazine*, Vol. 21, No. 3, September, 1948, p. 56.

[7] Two such reports are:
Hamlin, H. M., "Summary of Measurement Studies in Agricultural Education," *Agricultural Education Magazine*, Vol. 6., No. 5, November, 1933, pp. 74-77; No. 6, December, 1933, pp. 90-93.
Wright, C. E., *Occupational Distribution, Entrance into Farming, and Opportunities for Farming of Former Students of Vocational Agriculture*, Doctor's thesis, Cornell University, 1943, 572 pp.

[8] Deyoe, George P., "Making Use of the Results of Research," *Agricultural Education Magazine*, Vol. 21, No. 3, September, 1948, p. 67.

Securing and training instructors

(Continued from Page 198)

by enterprises prepared for the instructors, but lesson plans in program planning and current problems in agriculture are prepared. With each lesson plan, references are given and a suggested conclusion or results to be secured from the group are given.

Help by Supervision of Area Supervisor

The area supervisor visits each department once a month and assits with the following methods: (a) class teaching, (b) individual instruction on farms, (c) organization of work.

In-Service Intensive Courses During Summer

Courses are offered by the College of Agriculture in technical agriculture and by the teacher trainers in agricultural education.

Implications for the Future

In the future we will have more opportunity to select instructors for this program, but the pre-service and in-service training must be continued and must be improved. The lessons learned in the training of teachers for this program will mean much to the training of all instructors of vocational agriculture in the future. Instructors for high-school classes and instructors for adult farmers are faced with different problems and must have training for these problems. Since we do not expect the training to cease with the expiration of the entitlement of the veterans for training under this program, we must make the necessary adjustments in our teacher training to prepare teachers to continue a much-expanded program of instruction for adult farmers. The institutional on-farm training program in Kentucky has brought much recognition to the agricultural education program in the state. Whatever success the program has attained has been due to the instructors. The lessons learned in the training of these instructors must be carried over into and made a part of the training of the future teachers of vocational agriculture in our state.

The Young Farmers of South Carolina held a state organization meeting on November 4, at which time a state organization was effected and a program of activities adopted.

Upgrading instructors through a graduate program*

H. M. HAMLIN, Teacher Education, University of Illinois

I. Introduction

Limitations of the Subject.

H. M. Hamlin

MY SUBJECT was chosen and worded by the program committee. It limits me to one phase of graduate work, the education of teachers in service. I shall further limit myself to the situation at the University of Illinois, since I believe that a rather full discussion of our own work which I am familiar will be more useful than a more superficial treatment of the national situation with which I am much less familiar. Following still further the principle that I should talk of things about which I know something, I shall deal principally with professional courses, rather than subject-matter courses, since we in agricultural education at the University of Illinois are responsible only for the professional courses.

There are several phases of graduate work in agricultural education with which I shall not deal:

1. Graduate work for students in the fifth year of a five-year program of preservice education
2. Graduate work for teacher-trainers, research workers, administrators and supervisors

Phases of Graduate Work in Agricultural Education for Teachers in Service.

At the University of Illinois there are five types of graduate work in agricultural education in which teachers in service participate:

1. Extramural courses
2. Summer courses
3. Field-study, research, and thesis courses
4. Campus courses during the school year which are available to nearby teachers
5. Internship

Extent of the Illinois Program.

During the past year,[1] 106 different teachers have been enrolled in graduate courses in agricultural education who taught in the state during 1947-48 or are teaching in the state in 1948-49, almost one-fourth of the teachers in the state. The total enrollments in these courses of teachers in service have been 181. These enrollments have been distributed as follows:

Extramural courses	72
Summer courses	70
Courses conducted during the school year which do not require class attendance (field studies, special problems, thesis)	29
Campus courses during school year	10

The five interns have earned their credits through registration in these four types of courses. There have been five courses each term in which teachers in service have enrolled. Four sections of one course were provided in the fall of 1947, so that altogether 18 sections have been available during the year.

II. Nature of Graduate Work in Agricultural Education for Teachers in Service

Courses.

During the past year, a new set of graduate courses in agriculture education has been approved at the University of Illinois. The series includes the following courses:

- Agricultural Education in Community Schools
- The High School Program of Agricultural Education
- Vocational Education in Agriculture for Adults
- Supervised Farming in Vocational Agriculture
- Field Studies in Agricultural Education
- Seminar in Agricultural Education

In addition, majors in agricultural education may enroll for a research course and a thesis course offered by the College of Education but taught to teachers of vocational agriculture by members of the agricultural education staff. During the summer of 1948, 31 teachers of vocational agriculture participated in a curriculum work-shop, conducted by the College of Education in which two members of the agricultural education staff were in charge of the work for teachers of agriculture.

Each of the four basic courses in agricultural education offered on campus and extramurally carries one-half unit of credit (two hours). One unit may be earned in the field studies course. The seminar carries one-half unit of credit. Thus the six courses in agricultural education carry a total of 3½ units (14 hours) of credit. All of the additional credits in agricultural education which a student may wish to earn may be earned in research and thesis courses.

Extramural Program.

For each extramural course there is one two-hour meeting weekly for 12 weeks. The instructor visits each student at the school in which he is teaching at least once during the semester.

Requests for extramural courses are initiated by the teachers in the section groups wishing such courses. Commonly 75 per cent or more of the teachers in a section group attend the course. During the past year, five extramural courses in agricultural education have been held:

- At Macomb, 145 miles west of the campus
- At Winchester, 140 miles southwest of the campus
- At Newton, 90 miles southeast of the campus
- At Decatur, 50 miles southwest of the campus (one course each semester for two semesters)

Each semester one of our two instructors of graduate courses is engaged primarily in off-campus work of various sorts. It is in his semester off-campus that he aims to conduct his extramural classes. We plan a normal load of one to two extramural classes per semester, or two to four such classes per year.

While teaching an extramural class in a section, the instructor engages in section activities and assists teachers with special events in their schools. These activities, together with the class meetings and the systematic visits to the schools of class members, serve to acquaint him rather thoroughly with vocational agriculture in the section. This acquaintanceship normally leads to continued usefulness in the section over a long period. The best results are not likely to be attained in the semester the first extramural class is offered, but possibly two or three years later.

Extramural classes are now more feasible in Illinois than they have ever been before. With about 460 teachers in the state it is not difficult to assemble 15 to 20 teachers from within a radius of 50 to 60 miles from the class center. Enrollments are sometimes limited because a number of teachers have taken the course in summer sessions. To attract enough teachers to warrant giving a course, it must be a course which will serve all who are interested in professional improvement and not merely those seeking graduate degrees.

Summer Program.

The entire campus offering of graduate courses in agricultural education is made available each summer. Classes meet two hours daily for four days a week for four weeks. In 1948, six courses in agriculture were available, as well as the five courses in Agricultural education. Fifty of the 65 units of credit earned by teachers attending summer school were earned in courses in agricultural education. In the summer of 1949, a course in Philosophy of Education will be offered in the special four-weeks term. Teachers on the campus during the summer maintain an organization with weekly, evening meetings.

Field Service Course

Students who have completed a campus or extramural course are entitled to enroll in a field-service course, in which they may earn one-half unit of credit per semester for two semesters. Each student is visited by his instructor at least once during each semester. An all-day campus meeting is held during each semester. A news letter goes out to each student at least twice each semester, reporting the progress of the students' studies and developments related to them, and citing aids for their use. Students may, and frequently do, take more than one semester for completing a particular study. Twenty-one teachers,

*Address, Agricultural Section, American Vocational Association, Milwaukee, Wisconsin, November 30, 1948.

[1]Spring Semester, 1947-48; Summer, 1948, and Fall Semester, 1948-49.

well scattered over the state, are enrolled at present for field studies.

Special Problems and Thesis Courses.

Teachers in service may enroll for one unit at a time in a research course. They are required to register on campus for this course. Studies completed during the past year have dealt with following up former students in vocational agriculture and with the attitudes of students and former students toward the awards given were in vocational agriculture and by the F.F.A.

A thesis is not required for the Master's degree. In fact only two students have written Master's thesis in the eleven years the University has had graduate work in agricultural education, and none has been written since 1940. One teacher is doing a doctor's thesis dealings with advisory councils.

Internship Program.

Last year three interns were enrolled, who worked for ten months under the teacher of agriculture at Newton. They were also enrolled in two graduate courses each semester and they took graduate courses on campus in summers of 1947 and 1948. This year they were working on their own jobs and are enrolled in the field-studies course, so that our supervision of them is continued. They will receive Master's degrees at the close of this school year. This year, also, two new interns have been enrolled; one is at Rochelle and one is at Streator.

Time Required by a Teacher in Service to Earn the Master's Degree.

About two-thirds of the teachers enrolled in graduate courses are working seriously toward degrees. We consider four years to be the time normally required by a teacher in service to earn the Master's degree. There is a five-year limit upon the life of the credits which can be applied toward the degree, but this can be waived if conditions for which the student is not responsible interrupt graduate work. Half of the credits must be earned in campus courses. A student following a normal program would earn his credits as follows:

	Units
Summer school (4 summers)	4
Field studies	1
Extramural classes, special problems, and thesis	3

There are, of course, many variations from this pattern.

Courses in agricultural education are not the only courses offered extramurally. This semester 18 courses in education, other than the courses in agricultural education, are offered extramurally.

III. Comments on the Program for Teachers in Service at the University of Illinois

General Observations.

Our experience with graduate work for teachers in service leads us to the following observations:

1. Since at least three-fourths of our teachers do not enroll in graduate courses in a given year, ample staff time must be allowed for work with those who do not enroll. Short courses, conferences, and other training-in-service devices remain important even though the graduate program is rather highly developed.
2. Graduate courses are valuable to the state program in many ways:
   a. They provide prolonged and systematic contracts which are often needed to "jar teachers loose" from previous conceptions and practices.
   b. Teachers derive much inspiration and many ideas from being on the campus with 70 other teachers of vocational agriculture over a four-weeks period in the summer.
   c. An extramural class in a section helps a section group to become better acquainted and more effective in the general affairs of the section.
   d. Graduate courses often lead to the establishment of "pilot centers," though we do not call them that, in which new ideas can be worked out and exemplified.
   e. Our contacts with graduate students, particularly in extramural and field-studies courses, are helpful in locating good centers for student teaching. Our graduate courses help to prepare new supervisors of student teaching. This year we shall need about 15 new supervisors.
   f. Working with teachers in their communities helps us to involve with the teachers those who are concerned with the planning of the programs of agricultural education in their schools. Much graduate teaching has been fruitless in its effects on the teachers' program because the teachers have worked out in their classes programs which they have later tried to introduce among administrators, parents, and students who have not gone through the preliminary thinking the teacher of agriculture has undergone. We try to involve from the beginning those who are to be affected by the innovations being considered.
   g. Graduate work for teachers in service is being facilitated now by the G. I. Bill of Rights. About 200 Illinois teachers are entitled to its educational benefits. Many of them accumulated a few graduate credits as veteran-students before beginning teaching and they are eager to complete the work for a degree. This is a fortunate time in which to stress graduate work.
   h. Extramural and other field contracts with teachers in service are perhaps more valuable to the instructors than to any of their individual students. Instructors in agricultural education must make field contracts and graduate courses off-campus provide as good opportunities as there are for these contacts.
   i. To conduct our graduate program as we now have it requires the equivalent of the time of one full-time man. More time than this should be given to it.

Outcomes of Previous Graduate Work.

It is impossible, of course, to determine the precise consequence of our graduate work with teachers in service over the past 11 years. It appears clear, however, that it has contributed to such improvements in the state program as the following:

   a. Expansion of adult work in agriculture
   b. Development of advisory councils
   c. Introduction of integrated high school courses, replacing segregated courses
   d. Broadening of programs of supervised farming to include improvement projects, new farm practices, and the systematic teaching of farm skills

In addition, it has helped to hold certain good teachers in the field by renewing their interest and by making it possible for them to improve their status in teaching. It has helped many teachers to earn positions of leadership and influence with their fellow teachers.

Questions.

Obviously many unsolved problems remain in offering graduate courses in agricultural education for teachers in service:

   a. Should we encourage students to proceed directly to the Master's degree before beginning teaching or to hold off their graduate work until they are in service?
   b. What should the length of the summer term be to avoid conflict with summer activities in the home community? Our teachers are privileged to attend summer school four days a week for six weeks, but since 1943 we have chosen to hold to a four-weeks term, which is really too short for the most effective teaching and which delays progress toward a degree. Even with these limitations, we propose to continue the four-weeks term.
   c. Should teachers in service be allowed time to take graduate courses which are intended to prepare them for work in fields other than vocational agriculture? Recently this has been a very minor problem, but it will become important if teaching should again become less attractive in comparison with other fields.
   d. How can we better balance agriculture education courses with other courses in the graduate program? What courses other than courses in agriculture, agricultural education, and education should teachers take? Should graduate courses in agriculture be provided extramurally, as they are by the University of Missouri?
   e. How could the time and travel in connection with extramural and field studies courses be reduced? Travel costs of these courses are approximately met by the fees the students pay, $19 per each half-unit course, but the requirement per student of instructor-time is very high compared with campus courses.

Outcomes

Whether or not the graduate program I have described is good for the students, it is assuredly good for the instructors. Through our extramural courses and our visitation of 80 or

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Farmer Classes

J. N. WEISS MARK NICHOLS

Wyoming veterans learn about horticulture

J. O. REED, Instructor, Veterans On-Farm Training and Vocational Agriculture, Cheyenne, Wyoming

THE SUBJECT MATTER of institutional on-the-farm classes in southeastern Wyoming naturally follows very closely the major enterprises of the section—which are few in number. In fact, beef cattle, sheep, small grains, and hay crops are about the limit of the activities and also the interest of those concerned. To meet the needs of these veterans, instructors devote most of the class and on-the-farm instruction to these, and smaller allotments of time to the minor enterprises of the area. These major enterprises are the things that most plains farmers grow in order to make a living.

Horticulture Crops

Horticulture for Wyoming includes four types of plants that are of interest to farmers and ranchers (1) Trees and shrubs for windbreakers, (2) Fruits, (3) Vegetables, and (4) Ornamental trees, shrubs, and flowers.

In this high plains country, just east of the Rocky Mountains, we have the following handicaps in growing these plants: elevations downward from 8,000 feet, severe winters, droughts, irrigation only in limited areas, and high winds. Mother nature left most of the area barren, with the exception of grass. Believe it or not, the last named is the principal reason one notices a shortage of these types of plants around the farms and ranches. There are those who say, "If the good Lord had intended for trees to grow here he would have put them here." And there is some foundation to that common belief, because the settlers in this country failed in their efforts to grow trees and vegetables they brought with them or imported from their home states. For example, varieties of trees and vegetables which give excellent results in Iowa or Missouri, have little chance of surviving, much less prospering under Wyoming conditions.

The veterans are interested in this matter, for a desire was created through their travels while in the service for better and more worth while living. Those who married eastern girls and have since brought them out west—to find a ranch house sitting alone, no trees, no shrubs, no flowers, and little if any vegetable production—have additional encouragement. This situation applies to many veterans who live in the area east of the Rockies, from the Canadian border down through west Texas.

Organizing Instruction

To meet the needs of these fellows, four veterans groups of southeastern Wyoming have made a study of the plants and their varieties that will do well here. Wheatland, with 60 members and four instructors, headed by L. S. Bays; Burns with 15 members and instructor A. E. Hudson; Albin with 20 members and two instructors, H. G. Youtz and G. R. Crossan; and Cheyenne with 12 members and J. O. Reed, instructor, cooperated in the study. The services of Dr. A. C. Hilbreth, the supervisor of the U.S.D.A. Horticulture Field Station for the Central Great Plains states and the inter-mountain areas of similar climate, was secured. An all day field trip to his station was planned so as to see the results of 18 years of experimental and research work. Wives were invited and a luncheon outside at noon for the four groups together was planned. Percy Kirk, Wyoming State Supervisor of Agricultural Education, and Miller Brown, Supervisor of Veterans Training-in-Agriculture for Wyoming, assisted the author in organizing and conducting the field day.

Horticulture Problems Studied

The work of the station has been to develop varieties of plants that will survive prevailing conditions. Hybridizing of hardy domestic varieties to wild varieties that grow at higher altitudes in the mountains, has brought about several strains that meet our needs, even though not all are on the market as yet.

Some of the interesting subjects covered were:

1. The varieties of trees that will do well for dry land windbreaks
2. The spacing of these trees for local conditions
3. The methods of planting and cultivating windbreaks
4. Varieties of fruit trees that will bear most years under dry land conditions
5. Fast maturing vegetables that have been developed for this area. (For example: tomatoes, pumpkin, and squash)
6. Strawberries developed that will survive the winters without any cover or protection at all, and bear comparably with well-known domestic varieties
7. The varieties of ornamental trees, shrubs, and flowers that will withstand the handicaps
8. The methods of planting, transplanting and raising evergreen and deciduous ornamental plants and fruit trees
9. How to combat the surplus alkali in our soils and its effect on plants
10. How to grow and maintain lawn grasses
11. A list of all the varieties of vegetables recommended for this country
12. Solving individual problems through the use of the Horticulture Station services.

These are only a few but a good cross-section of the type of study. All questions of the group were answered to satisfaction and most groups followed with a general discussion on their first night meeting.

It was known that every veteran gained considerable knowledge, acquired a desire, and made plans of his own to put into practice some of the things learned. The result more nearly approached 100 per cent whole-hearted reception than any other jobs taught.

All those present join in extending to the U. S. Department of Agriculture appreciation of the efforts of the Horticultural station and add further that this particular section needs the continuation of such research and that it be carried on more extensively.

It may be well for us to include some training such as this in our plans. In this instance, it was highly accepted by cattle and sheep ranchers, and some small grain producers.

Group observing evergreens, shrubs and lawn grasses.

Farm cooperative youth education

GEORGE M. MYERS, Educational Director, Pennsylvania Farm Bureau Co-operative Association, Harrisburg

IT IS TRUE that Pennsylvania is a highly industrialized and important coal-mining state. Sometimes it doesn't occur to us that Pennsylvania also ranks high in the nation as an agricultural state. That is also true.

The great bulk of Pennsylvania's agricultural output comes from family-type farms. Our farm and community leaders are now beginning to realize that the family farm business unit is necessary to a stable agriculture and therefore a sound national economy.

Socially and politically the family farm is also basic in our American democracy. And democracy begins in the home. There is no better example of actual democratic practices than in the farm family, especially where the family owns the farm that is its home.

The 10,000 farm cooperatives operating over the country are a real force in helping preserve this small business unit, the family farm. Of course there is no yardstick to measure exactly the great boon these cooperatives have been in raising the efficiency of the small farm business unit. But if some evil witch could wave her magic wand and erase the effect of these cooperatives, direct and indirect, our eyes would open.

The generation of farmers who helped organize their cooperatives doesn't need to study cooperative history. They have experienced it. But younger generations have not been through the battle. Farm cooperative leaders are now becoming more aware that these young people who inherit the cooperatives their fathers built must understand what has gone before. They must understand what strong, democratic cooperatives do for agriculture. They must understand what could happen to the family farm without the cooperatives that enable it to compete successfully with highly organized industry and labor in our society.

The logical answer to this problem is more emphasis on farm cooperation education. In Pennsylvania, educational leaders and farm cooperatives are working together to do this job; to acquaint rural youth with this important farm tool—cooperation.

Dr. H. S. Brunner, head of the teacher training staff of Pennsylvania State College, and H. C. Fetterolf, of the agriculture education section, Pennsylvania Department of Public Instruction, returned from the American Vocational Conference in Los Angeles a year ago full of enthusiasm for the help cooperatives are giving teachers in states such as California, Wisconsin and Michigan.

Arranged for Clinics

Leading farm cooperatives in the state had recognized the need for this and at the suggestion of these two educational leaders they were soon at work. Professor J. K. Stern, of the department of agricultural economics, Pennsylvania State College, and Mark Nichols, American Institute of Cooperation, Washington, D. C., quickly joined the project.

They studied the educational programs carried forward in other states. Then the Pennsylvania Association of Farmer Cooperatives appointed an official committee to work out a program of youth education.

This committee established a two-point program for one year. Point one was a series of co-op clinics for all teachers of vocational agriculture and veteran's instructors, attended by representatives of the farm cooperatives to join the discussion and answer questions. Point two was establishing a one-year fellowship at Penn State College for research to develop teaching aids adaptable to the needs of the teachers.

Eight clinics were held: at State College, Greensburg, Butler, Union City, Tunkhannock, Wellsboro, Chambersburg and Reading, in the last two weeks of September. The State Department of Public Instruction invited instructors to attend the meeting nearest their homes. Expenses of these meetings totaled about $1,500, including a dinner at each clinic.

At each meeting following the dinner, V. A. Martin, of the agriculture education section, State Department of Public Instruction, took the chair as moderator and each co-op representative gave a brief oral sketch of his cooperative. The remainder of the evening was given over to frank discussion and questions and answers. The co-ops were verbably dissected around the table.

A total of 560 regular teachers and veterans instructors, about 85 per cent of those in the state, attended the meetings and most of them greeted the project with enthusiasm. In fact, cooperatives have since been receiving many requests for representatives to sit on panel discussions among G. I. farmers. Here too the plan is being favorably received.

At each clinic, Prof. Stern set up a display listing available printed material on cooperatives as well as movies on the subject. At every clinic meeting, the panel was sure to answer the following questions: "How can we teachers do a better job of teaching agricultural cooperation?" "Where do we go from here?" and "Why can't the cooperatives provide us with teaching materials, not just advertising or promotional material?"

Dr. Brunner answered these questions by explaining point two of the committee's program. He explained that $2,000 had been turned over to the college for the fellowship. He introduced John Stump, the post graduate student at Penn State who received the fellowship and who attended all of the clinic meetings. Stump, who is studying for his master's degree, will spend a full year on the assignment. He began by recording most of the questions teachers asked at the clinics.

Funds for the educational project came from voluntary contributions of Pennsylvania cooperatives. All were invited to participate in the program, whether they were members of the Pennsylvania Association of Farmer Cooperatives or not.

In addition to Mr. Martin, Dr. Brunner and Prof. Stern, the committee is composed of the following: W. A. Ranney, Cooperative G.L.F. Exchange, Ithaca, N. Y., chairman; L. A. Thomas, Jr., Pennsylvania Association of Farmer Cooperatives, Harrisburg, secretary-treasurer; H. E. Jamison, Inter-State Milk Producers Cooperative, Philadelphia; George Taylor, Dairymen's Cooperative Sales Association, Pittsburg, Robert Eno, Dairymen's League Cooperative Association, New York, N. Y.; Eli Wiggins, Eastern States Farmers Exchange, West Springfield, Massachusetts, and George M. Myers, Pennsylvania Farm Bureau Cooperative Association, Harrisburg.

Educational Clinic, with On-Farm Trainees, West Chester, Pennsylvania. Panel leading the discussion, seated, front, left to right: Kenneth Souders, Producers' Co-operative Exchange, Coatesville; H. E. Jamison, Interstate Milk Producers Co-operative, Philadelphia; Sigurd Overgaard, Chester-Delaware Farm Bureau Co-operative Association, West Chester; George M. Myers, Pennsylvania Farm Bureau Co-operative Association, Harrisburg, moderator for the discussion; Noah Hershey, Eastern States Farmers Exchange, West Springfield, Mass.; Gordon Jones, Chester County Dairy Co-operative, Oxford, Pennsylvania; Fred Coates, Woodland Products, Inc., Downingtown. Seated to rear of panel table, Roy Geisman, left, and Robert Coolidge, G. I. Instructors.

Farm Mechanics

R. W. CLINE

Community soil conservation program

Sigourney, Iowa

ALVIN W. DONAHOO, Teacher

CAN A HIGH SCHOOL department of vocational agriculture use power farm equipment enough in its educational program to justify having such equipment? This is a question often asked by instructors of vocational agriculture and school administrators. As a result of experiences during the past year I should like to make some observations about the matter.

In April, 1948, H. T. Hall, Iowa Supervisor of Vocational Agriculture, announced that our department was one of the two winners of the State Soil Conservation contest. The award, which was given by the Iowa Ford Tractor Company of Des Moines, consisted of a Ford tractor and the following Dearborn equipment: plow, scoop, blade, field cultivator, and terracer. The tractor and equipment was to be used by our department for one year to aid the soil conservation program already underway.

With the equipment on our hands, the department had to decide how the equipment was to be used as the basis for an educational project rather than just another set of equipment to do custom work in the community. It was decided that the equipment would be used only on the farms of those people served by the department. This included day students, those in adult farmer classes, veterans in training, and out-of-school F.F.A. members.

Application of Classroom Instruction

One of the greatest educational benefits from having the equipment was that it offered an effective means of putting knowledge learned in the classroom into actual practice. In the past after a study of methods of controlling erosion, many students found that there was little they could do about building terraces and grass waterways on their home farms due to the fact that their own farm machinery was engaged in regular farm operations. With the equipment available in the school many students have been able to start effective soil conservation programs that would not have been started otherwise.

Another educational feature of having such equipment is that students can be given systematic instruction in the operation of farm machinery. It is felt that all students should be instructed in the use of such equipment so that they may be able to put the conservation practices to work on their own farms. While the equipment may suffer some from the number of different operators it should be remembered that the purpose of the equipment is educational. This is most effectively carried out when all students can operate the equipment so that they can construct their own terraces and waterways. Allowing students to do this work on their home farms seems to give them a deeper appreciation of proper land use.

Equipment Used in Shop

It was found that this equipment could be used in the shop to give students instruction in tractor maintenance and machinery repair. Working with the actual problems that developed from the use of the equipment did much to increase interest in farm shop work. With such equipment available in the school, I was able to offer a more comprehensive shop program than previously.

Another area of instruction overlooked many times in our teaching is that of the cost of using machinery. With the cooperation of individuals using the equipment, students can obtain first hand information of the cost of building terraces, filling ditches, renovating pastures, plowing, and the many other operations that are done with farm machinery.

Having this equipment in our department has made it possible to develop a stronger supervised farming program. Between April 10, 1948, when the equipment was awarded, and December 31, 1948, the equipment was used by members of our department to construct 17,325 feet of terrace and 5,830 feet of diversion terrace, fill ditches to establish 23,740 feet of grass waterways, dig 4,240 feet of drainage ditch, renovate 60 acres of permanent pasture, and construct two farm ponds. During the year, twenty seven complete farm plans were developed with the cooperation of the local Soil Conservation Service.

As a result of the work done during the past year, it was decided by our school administration that this equipment should be purchased to become a part of the regular school equipment. It was felt that such equipment does make for more effective classroom teaching as well as a means of developing better supervised farming programs.

In view of our experiences I feel that such equipment can be justified in our department of vocational agriculture.

As a stimulation for local and state F.F.A. activities in Michigan a total of $22,275 has been made available for the year 1948-49. A major portion of the funds are derived through the Michigan Department of Agriculture.

Community soil conservation program

Lake City, Iowa

WAYNE D. STRONG, Teacher

COVER PAGE

The picture on the cover shows the Lake City, Iowa chapter cooperating with the Soil Conservation Service in making a dam and diversion ditch to keep water away from a large gully on the William Tell farm. The gully was threatening to inundate some of the buildings on the farm.

THE LAKE CITY department of vocational agriculture has tried to render an outstanding community service in its cooperative soil conservation work during the past year.

It started about a year ago when the F.F.A. chapter was declared winner in the State Soil Conservation Contest and was given the use of a new Ford tractor and Dearborn equipment consisting of plow, terracer, scoop, blade, and field tiller for one year. This equipment was donated by the Iowa Ford Tractor Co. and its associated dealers.

Upon receiving the equipment, each student of vocational agriculture received instruction on the proper care, adjustment, and operation of the tractor and equipment. This was the first time the F.F.A. chapter had ever owned any equipment of this kind and all of the students have been able to learn several things about the equipment that they wouldn't have had the opportunity to otherwise. Even such things as the kind and amount of insurance to carry on the machinery and the operator entered into the picture, and served as motivating devices to study insurance.

Lake City is surrounded by rich farm land that is fairly level. However, like many other similar regions it has been farmed too heavily and as a result a good soil conservation program needs to be developed on most of the farms. A great deal of the land needs to be tiled and small ditches have started on many farms in spite of the fact that the slopes are gentle.

The local department of vocational agriculture assisted in getting a Soil Conservation District organized two years ago. Many farmers needed to be sold on soil conservation and others desired additional information. To put across this educational work 19 special meetings on soil conservation were held during the past year, which had a total attendance of 480. In addition to this 24 farm demonstrations were conducted on filling ditches, terracing, spraying 2-4-D and D.D.T., pasture renovation, soil testing, building dams, and establishing grass waterways. These had a total attendance of 780. Demonstration plots were held on corn, potatoes, fertilizer, 2-4-D spraying, soybeans, grasses and legumes. Seven exhibits were displayed on Soil Conservation which were put up at the school, in local store

windows, at the county fair, at the state fair and at the state F.F.A. convention. Additional publicity was given through 20 newspaper articles and a radio program.

TABLE I—Soil Conservation Practices Followed

	No.		Estimated	
1. Contour cropping	Farms	10	acres	400
2. Terracing	"	3	"	65
3. Ditch filling	"	106	rods	3140
4. Dams	"	10	dams	29
5. Grass waterways	"	115	rods	4108
6. Gully tree planting	"	3	trees	6000
7. Strip cropping	"	4	acres	85
8. Legume seeding	"	160	"	4800
9. Liming	"	140	"	4200
10. Phosphate fertiliser	"	105	"	2480
11. Pasture improvement	"	98	"	2180
12. Drainage ditches	"	14	"	380
13. Drainage-tiling	"	26	"	6800
14. Diversion ditches	"	5	"	165
15. Timber plantings	"	1	trees	500
16. Weed spraying	"	290	acres	2005
17. Spraying livestock, buildings, etc.	"	100		
18. Seed testing	samples	500		
19. Soil testing	samples	300	acres	4000

Table I gives a summary of the soil conservation work accomplished by members of the department of vocational agriculture during 1948. The groups served by the department include 43 day school students, 100 adult evening school members and 46 members of the veterans class for a total of 189 persons farming 33,500 acres.

TABLE II—Work Done With F.F.A. Tractor

Terracing	3 farms	65 rods
Ditch filling	39 farms	1400 rods
Small dams	4 farms	10 dams
Grass waterways	30 farms	910 rods
Pasture improvements	10 farms	240 acres
Drainage ditches	15 farms	180 rods
Drainage tiling	15 farms	4400 rods
Diversion ditches	3 farms	65 rods
Landscaping and grading	14 farms	
Miscellaneous work	10 farms	

Table II gives the actual work done with the F.F.A. tractor from May 1 to Dec. 1, 1948. The tractor was operated on a non-profit basis. Most of the time it was rented to a farmer without an operator but on the more difficult jobs one of the F.F.A. members was hired to operate it. The net profit of all the work done with the tractor amounted to $44.86.

Other Equipment Owned

In addition to the tractor and equipment the F.F.A. chapter owns a one-half ton army truck with a 250 gallon power sprayer. This has been operated by the F.F.A. chapter for the past two years. During this time, weeds were sprayed on 2005 acres on 290 farms. Sixty-five farms were sprayed with DDT for fly and insect control. The town of Lake City was sprayed with DDT for fly control. Twenty demonstration plots were conducted on pre-emergency spraying and four meetings and six demonstrations were held on the proper use of 2-4-D and DDT, which were attended by 156 different farmers with a total attendance of 465 persons.

During the past year the F.F.A. chapter has tested 500 samples of seed for germination and purity and over 300 samples of soil.

All of this work on soil conservation could only be accomplished by all members of the department working together. Through the work that has been done the farmers in this area are beginning to realize some of the value of following good soil conservation practices. The Lake City F.F.A. chapter contoured the first field and made the first terrace in this area. They were also the first group to do any spraying with 2-4-D and DDT in the area. As a result of their good showing, practically every farmer in the locality had some spraying done last year. Many farmers have purchased their own machines.

A good soil conservation program could and should fit into the program of every department of vocational agriculture. There is probably no other project that will improve a community more or give the lasting results as a sound soil conservation program, if it is properly carried out.

Members of the Lake City, Iowa F.F.A. chapter testing seed. This chapter tests 500 samples of seed each year for both germination and purity for farmers in their community. They also test approximately 300 samples of soil each year. A charge of 25 cents a sample is made for both soil and seed testing, to cover part of the expense.

Evaluating outcomes

(Continued from Page 199)

held in local community organizations
2. Leadership functions in local community organizations
3. Participation in community or organization cooperative activities
4. Leadership functions in other school organizations
5. Degree achieved in the F.F.A.

Young Farmer Groups

The criteria used to evaluate the progress and outcomes of young farmer groups are largely a continuance of those used in the high school group It is accepted that the instruction in young farmer groups should be such that it will contribute to the young farmer's progressive establishment in farming and so designed that it will aid young men in (1) their managerial practices and operative skills and in (2) their individual and cooperative community responsibilities.

The criteria used to evaluate progress in this group are arranged in six areas:

I. Establishment in Farming
  A. Financial progress
    1. Net worth—taking into consideration the physical limitations of the farm
    2. Financial returns
  B. Ownership—if it is considered that ownership is an ultimate goal
  C. Degree of management

II. Approved Farm Practices
  This is merely a continuance of the same group used as criteria for evaluating progress on the F.F.A. group.

III. Efficiency of Production
  A. Livestock
    1. Production—feed per 100 lbs. gain
    2. Return over feed cost
    3. Return per $100 of feed
  B. Crops
    1. Increase in yields on own farm
    2. Comparative yields based on county averages

IV. Farm Organization
  A. Crops
    1. Definite crop rotation
    2. Per cent of tillable land in high return crops
  B. Livestock
    1. Productive livestock units per 100 acres
  C. Adequate power, livestock, and crop machinery and equipment
  D. Size of business measured by productive man work units

V. Improved Living on Farm
  A. Farm improvements
    1. Farmstead
      a. Home conveniences
      b. Home beautification
  B. Educational program
    1. Papers, magazines
    2. Radio
    3. Individual education

VI. Participation in Community Activities
  A. Organizations
  B. Leadership
  C. Church participation

Adult Farmer Groups

A dividing line between a young farmer and an adult farmer is difficult to establish. Perhaps the greatest dif-

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Future Farmers of America

H. N. HANSUCKER

Shawnee-Mission chapter assists with National F.F.A. Conventions

A. P. DAVIDSON, Teacher Education, Kansas State College

THE Shawnee-Mission (Kansas) chapter members each year for the past eleven years have played an unusual and important role in connection with the annual convention of the national organization of F.F.A. held at Kansas City, Missouri. The Shawnee-Mission rural high school is located approximately five miles southwest of Kansas City. Mr. Harold Garver, who has taught vocational agriculture in this school for the past nineteen years, is the local F.F.A. adviser.

Garver in answering the question as to the length of time his F.F.A. boys had been cooperating with the National Organization in the conduct of its annual conventions stated: "It was at the time of the Ten Year Celebration in 1938 that National Executive Secretary W. A. Ross sent a call to the Shawnee-Mission chapter for help. His own secretaries brought out from Washington, D. C. had plenty to do registering guests, selling banquet tickets, etc., without running errands. The experiment with the Shawnee-Mission boys proved successful, and this job has fallen to members of this chapter ever since."

Types of Assistance Rendered

In reply to an inquiry as to the nature of the work performed by members from his chapter, Garver replied: "The kind of jobs the chapter members are called upon to perform are varied and unpredictable. As is the case with all large conventions, there is a great amount of routine and detail work to be done. Press headquarters are maintained, office work including mimeograph jobs, committee meetings in various hotel rooms, and of course, the business sessions of the House of Delegates on the main arena floor of the Municipal Auditorium, all must run smoothly. In addition to the administration of these many and varied activities, interesting and high class entertainment and pageantry is included in the week's program. All of this requires a constant and smoothly functioning liaison between all groups. In turn, this calls for services of helpers who are familiar with the many floors, rooms and corridors of the huge municipal auditorium, as well as the location of the downtown hotels. For ten of the eleven years we have assisted, it has been necessary to have groups of boys who could direct persons to the American Royal Livestock show and to be able to find the location of F.F.A. exhibits judging contests, and the main arena.

"Duties are varied and many. A boy may be helping set up a state exhibit one moment and the next be in a taxi taking a message to some distant place such as the Livestock Exchange building. Or, he may find himself escorting the Secretary of Agriculture to the convention floor. Shawnee-Mission boys have had informal conversations with such personages as Lord Inverchapel, Mickey Rooney, Edgar Bergen, Clinton Anderson, Secretary of Agriculture, and many others. They have snapshots and autographs to prove it, too."

Designation of Members

In discussing the manner in which members of his chapter are selected Mr. Garver stated: "Boys are selected from the Shawnee-Mission chapter on a competitive basis. Only boys who are passing in all school work, who have satisfactory records of participation in their own chapter and who have passed a written examination on F.F.A. information are allowed to serve. A different group is used each day, and each group is headed by a chapter officer. Also, at least one Greenhand is included in each day's group so as to provide experienced workers for the following year. Chapter owned F.F.A. jackets are kept at headquarters for those who do not own their own jackets, and are worn when on duty."

In discussing the part the Shawnee-Mission chapter played in connection with the 1948 Star Farmer program Mr. Garver remarked: "This year Shawnee-Mission had a special part in the Star Farmer presentation program. Four large stars were built in their shop, as well as a large picture frame stage. The stars were made of plywood and were six feet high and mounted on a small stage supported by casters. The picture-frame stage was also made of plywood fastened to wooden frames. All five pieces were made in sections so as to be moved into the auditorium. The stars and picture frame were attractively painted (by a professional decorator) with a deep blue paint supplemented by a glitter material. Incidentally, the stage set was so large it could not be moved through the entrance doors of the auditorium, and had to be rebuilt three times before it reached its final destination on the main stage on the convention floor.

Star Farmer Tableaux

"The stage and stars were used in a tableaux portraying seven typical scenes in the development of a Star Farmer. Shawnee-Mission boys were used as 'actors' in all scenes and the narrator speaking over the public address system was that of the Shawnee-Mission president, James Sanford. The scenes were as follows:

SCENE I: The Greenhand boy, his parents and teacher grouped around a table

SCENE II: Class room scene—teacher and group of boys around a study table

SCENE III: Farm shop—boys working with a drill press, sawing a board, etc.

SCENE IV: Service—boys gathered around a seed treater

SCENE V: Leadership—boy with a gavel and group of boys around a table

SCENE VI: Cooperation—boys testing milk

SCENE VII: Farm work—a boy behind a walking plow

Appropriate music between scenes was furnished by the National F.F.A. band. The auditorium was darkened except

Members of the Shawnee-Mission chapter building the Star Farmer stage set in their school shop. Note the small model of the star and the "picture frame" shown in the center of the picture. Working drawings made by the chapter are shown on the pedestal.

for spotlights on the tableaux and the band. Following the tableaux, the regional Star Farmers and the Star Farmer of America were announced. As each Star Farmer was introduced, he stepped on the platform in front of the star designating his region. The whole ceremony was very impressive and a great improvement over the confusion, unavoidable, of other years when Star Farmers were presented in the arena of the American Royal Livestock Show."

Adviser Garver continued: "Shawnee-Mission members have always been glad to have part in this great national convention. Two years ago, a huge 'V' was built by them for use in the Victory Celebration pageant. The same year, a color guard of sixteen chapter members was used in a special Memorial Service. The boys are already wondering what National Executive Secretary A. W. Tenney will have up his sleeve for 1949. However, with hammers, saws and screw drivers they plan to be ready. Maybe it will be a Buck Rogers space ship—who knows?

"Convention activities for the Shawnee-Mission chapter are not limited to the confines of the Municipal Auditorium or to downtown Kansas City. Openhouse is held throughout the week for many visitors. This year, sixty-two California F.F.A. members from that number of local chapters spent a half day visiting the Shawnee-Mission chapter and surrounding farms. Three large busses transported more than 100 California and Shawnee-Mission boys to nearby farms. The boys from 'out west' marveled at our lack of irrigation facilities; or even worse, commented adversely on our irrigation ditches—which, of course, were drainage ditches. All they had seen of our part of the country were vast expanses of flat, treeless, plains. Then, they were sidetracked in their pullmans in the railroad yards for their Kansas City headquarters. Their impressions of this part of the U.S.A. were not too favorable until they had spent a half day in the beautiful rolling hills of eastern Kansas. At one farm, each visitor took away an ear of yellow field corn. Most of them had never seen ears of corn so large. The day of their visit was one of perfect weather. This all too short a visit from distant F.F.A. friends was definitely one of the highlights of our chapters' experiences in connection with the Twentieth F.F.A. Anniversary Celebration.

Chapter Entertains Visitors

"No less interesting and enjoyable was the annual pilgrimage of the University of Illinois students in training as future F.F.A. advisers and teachers of vocational agriculture, under the guidance of Professor J. N. Weiss. These visits started in 1941 and were interrupted only by the war years. These alert young men were literally given the keys of the Shawnee-Mission department, and they gave the place a thorough going over. Twenty-two students were in the party this year. Visitors in former Illinois groups have frequently returned in years following with their own F.F.A. boys to take advantage of our sleeping quarters in the school shop during the annual F.F.A. National Conventions.

"Last, but far from least, were the visitors from our own state. Groups from Goodland, Centralia, Inman and Hillsboro were among those who visited Shawnee-Mission at the time of the Twentieth Anniversary Celebration. Not so many in 1948 as in other years when as many as 150 F.F.A. boys spent the night sleeping in our farm shop and adjacent class rooms. Undoubtedly the holding of the American Royal and the National F.F.A. Convention on different dates made it possible for visitors to more easily obtain regular hotel accommodations."

In making it possible for the Shawnee-Mission chapter to function as a liaison group to hold open house for visiting F.F.A. boys and their leaders, and, in short to completely disrupt school work for the week during the National F.F.A. Convention, one must not overlook an understanding and sympathetic group of local school administrators. Principal Howard McEachen of the Shawnee-Mission rural high school is always de-

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Stage setting built by the Shawnee-Mission chapter for the Star Farmer program. Each star is 6 feet high and the "picture frame" center is 8 feet by 10 feet.

District F.F.A. leadership schools in Kansas

THE 1948 District F.F.A. Leadership Schools were held in ten centers, the centers being selected with a view to equalizing the travel distance.

The purpose of the F.F.A. Leadership Schools might be classified in three categories, namely; (1) ritualistic improvement; (2) broaden knowledge of the F.F.A.; (3) exchange of ideas on building and executing a worthwhile program of work.

As a result of a high percentage of attendance and participation on the part of local F.F.A. officers in the ten District F.F.A. Leadership Schools, the Kansas Association is proud to report that approximately 100 per cent of the local chapters in Kansas can "Open and Close" an F.F.A. meeting in a highly creditable manner.

The first district F.F.A. "Officer Training School" was sponsored by the Shawnee Mission chapter in 1931. Each year since, with the exception of 1942, District F.F.A. Leadership Schools have been conducted in Kansas.

The 1948 F.F.A. Leadership Schools were organized in such a manner as to give maximum emphasis to boy participation. Much credit for the success of the 1948 F.F.A. Leadership Schools must be given to the state F.F.A. officers who assisted, local F.F.A. advisers, and the local chapters assigned special roles on the program.

The District F. F. A. Leadership Schools were planned to begin at 3:30 p. m. and to close promptly at 9:00 p. m. All assignments were made early in the school year. Chapters were given an opportunity to indicate preferences in building the program, chapter wishes were followed insofar as it was found feasible. The following program for the Clay Center District F.F.A. Leadership School in typical.

Assignments 1948 F.F.A. Leadership Schools

Host Chapter: Clay Center; Place, High School.

Date and Time: October 4, 1948; 3:30 p.m.

Order of Business:

1. Host chapter opens meeting with official opening ceremony.
2. Host chapter conducts roll call of chapters.
3. Welcome by superintendent or principal of host chapter.
4. Opening and closing ritual contest—All chapters urged to participate.
5. F.F.A. information contest—All chapters urged to participate. Officers only eligible to compete.
6. Talk by state F.F.A. officer. Carldon Broadbent, Reporter, Kansas Association of F.F.A.

Supper

7. Parliamentary procedure demonstration, Randolph chapter.
8. Recital of the F.F.A. creed, Phillip Rohrer, Junction City chapter.
9. Demonstration of the proper use of the gavel, Clay Center chapter.

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Newark F.F.A. sponsors swine testing program

ROBERT HOWEY, Teacher, Newark, Illinois

Robert Howey

THE NEWARK chapter of F.F.A. functions as an intracurricular organization whose primary purpose is contributing to the agricultural education of the members. As such, it is planned to meet the needs of the members by developing activities that will supplement classroom instruction and will serve as a laboratory in securing more actual experiences in the learning process.

A swine testing association was organized as a subsidiary organization of the F.F.A. in 1944 as an educational activity. Two underlying principles were kept in mind making plans for the undertaking. The first principle was that people will not accept education on faith alone. Some tangible measure or method of evaluation is needed to show that such things as sanitation, creep feeding, progeny selection, and other good practices of swine production actually bring improved results. The second underlying principle was that man is a goal seeking animal and that he is continually striving to attain certain accepted goals or standards.

Swine production testing met our need in setting up certain goals and standards of production and for developing a tangible measure of performance in evaluating our progress in attaining those goals and standards. The good practices of swine production were no longer just so much subject matter but became ways and means of attaining goals and standards determined by the group.

Benefits from Program

There have been one hundred fifty-three litters tested by members of the chapter during the past five year period. While the records are not outstanding, many improvements have been made as a result of the testing program.

1. It has served as a motivating force in causing boys to accept and to put into operation many of the approved practices of swine sanitation. The adoption of these practices by the boys has resulted in improved swine production and efficiency of production.
2. It has improved the production ability of the breeding stock by culling out unprofitable producers and by using production ability as an important criterion when buying breeding animals rather than relying on type alone.
3. It has given F.F.A. members an opportunity to improve the efficiency of the swine enterprise of the home herd through improvement projects in swine testing.
4. It has given the students an opportunity to receive higher prices for their surplus breeding stock through an auction sale of production tested swine sponsored by several F.F.A. chapters. This sale has been held annually for the past four years and has created a demand for production tested stock in communities involved.

The F.F.A. chapter has sponsored swine production testing by adult farmers in the community with the result that they have formed their own organization and tested four hundred thirty-six litters during 1948. This organization of farmers was one of the founders of the Illinois Swine Herd Improvement Association.[1]

Member of State Association

The state association has amended its constitution to include junior memberships for the year 1949-50. This amendment states that "any F.F.A. chapter or 4-H club may become a junior member of the state association by participation in the swine testing program as a single herd on conforming to the state constitution and by-laws."

It is hoped that many of the estimated two hundred fifty chapters in Illinois which have been sponsoring swine testing will join the state association as junior members. The state association will make a summary of the records of all junior members and return a copy of the summary to the cooperating groups.

It is believed that such a program will help to bring about a greater awareness to the F.F.A. student as to the part production ability plays in the intelligent selection of foundation stock and in the intelligent evaluation of swine production efficiency. It is hoped that his participation in such a program will cause him to develop certain abilities and attitudes that will be useful to him when he becomes established in farming and will tend to increase his own efficiency and that of his community in this particular farming enterprise.

[1]Agricultural Education Magazine, May, 1948, p. 210.

The Madison—Eastern F.F.A. chapter, South Dakota, held a purebred hog sale recently, with an average sale price of $92.00. The hogs were placed in blue, red and white ribbon classes by a representative of the State College.

Rotobeater provided by F.F.A. for use at Lee, Maine

D. T. DODGE, Teacher

THIS is a revolutionary period in agriculture. The change from wartime economy to a prosperous peacetime economy has resulted in many new farm implements designed to aid and lighten the farmer's load. For the average farmer, the price of some of these machines is too high for use on individual farms. Consequently there is considerable custom work. Thus a long awaited opportunity was provided Lee Academy's F.F.A. chapter. For the past three years the F.F.A. chapter had been trying to decide upon a suitable project, one that would be of service to the farmers in this area, as well as being a means of earning money.

The need in our community was a method of removing, before the harvest, green potato tops kept green by the use of DDT as an insecticide. The Rotobeater, a new machine on the market, looked like the answer to this need. In August, 1948 the F.F.A. chapter decided to purchase one of these machines for which they had to borrow $750 from the Bangor Production Credit Office, and use $105 of their own funds.

Operation of Equipment Demonstrated

Upon receiving the machine we made several field tests and necessary adjustments and then gave two demonstrations inviting farmers from the general area to see for themselves how satisfactorily the rotobeater operated.

Immediately there was a rush of requests for the use of the machine. Our conditions were that the farmer was to operate the rotobeater with his own tractor and one of the F.F.A. boys would accompany the machine to grease it, and make any necessary adjustments while in use and disinfect the machine after completing the job. He also measured the acreage whenever possible. The farmer paid the chapter at the rate of $5 per acre for the use of the machine.

We were greatly handicapped on our work because we did not have a tractor of our own to use with the rotobeater. As it was, we could not operate it night and day and we also had to change our power take-off spline because of the variation in sizes of power take-off

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SUMMARY OF NEWARK F.F.A. CHAPTER SWINE TESTING SUBSIDIARY

	1944	1945	1946	1947*	1948*	Total
Number Litter	14	20	26	34	59	153
Number Pigs Farrowed	120	174	234	298	497	1323
Average Pigs Farrowed	8.6	8.7	9.0	8.7	8.4	8.6
Number Pigs Saved	95	144	169	227	388	1023
Average Pigs Saved	6.8	7.2	6.5	6.7	6.6	6.7
Loss Percentage	20.8	17.2	27.8	23.9	21.9	22.9
Average Pig Weight, 56 Days	32.5	36.4	35.6	26.5	30.5	32.3
Average Litter Weight, 56 days	220.3	262.3	231.6	202.4	200.6	216.1
High Litter Weight	306	441	406	367	402	406
Low Litter Weight	62	74	113	23	39	23

*Includes litters of some boys out of school who were still members of the F.F.A.

Topics for F.F.A. chapter programs

E. W. GARRIS, Teacher Education, University of Florida

E. W. Garris

IT HAS BEEN said that a good program for a chapter meeting should provide for something instructional, recreational, social, and inspirational. Topics may be selected that will stress each of these objectives. The teacher has the responsibility of approving the topics for the various meetings of the year.

Since most boys are provided with a four-year course of study in vocational agriculture, a four-year program of F.F.A. topics for meetings would be very desirable. Such a planned program of topics would prevent unnecessary duplication and would hold the interest of all members.

Many of the suggested topics for chapter meetings could be placed in any year of the program. The teacher may desire to modify the sequence at any time. To follow such a list he will never run out of desirable topics.

It is also understood that the program committee may design different types of activities for the same topic. Or in other words, topics may be presented in many different ways. Certain topics probably should be repeated annually.

First Year

History of the F.F.A.
Duties of F.F.A. Officers
The F.F.A. Emblem
The American Eagle
The Owl
The Plow
The Rising Sun
Table Etiquette
How to Make Dates
Thanksgiving
Christmas
Friendship
Selecting Food to Eat
Controlling Human Diseases
Magic
Hobbies
Wiener Roast
Chicken Fry
The F.F.A. Banquet
Famous Farmers
Fire Prevention
Safety
Music
Improving Study Habits
Improving Personality Traits
Camping Trip
Educational Tour
The Chapter Program of Work
Making the Chapter Report
Parliamentary Procedure
Financing a Chapter
Commnuity Service
Public Speaking
Initiation for Greenhand Degree
The American Flag
First Aid

Second Year

Election of Officers
Installation of Officers
Current Events
Prospect Night
State Flag
State History
Crop and Livestock Insurance
Personal Investments
Introductions for People
Independence Day
Washington's Birthday
National F.F.A. Week
National School Week
Chicken Pilau
Peanut Boiling
Negro Minstrel
Party for Future Home Makers
Selection of Reading Materials
Farm Safety
String Music
Camping Trip
Educational Tour
Initiation for Greenhand Degree
Initiation for Chapter Farmer Degree
Chapter Athletics
The Rural Library
The State F.F.A. Convention
The Forestry Training Camp
Public Speaking
Parliamentary Procedure
The Chapter Program of Work
The Chapter Report for the Year

Third Year

The State Farmer Degree
Fire Insurance
Lincoln's Birthday
Lee's Birthday
Jefferson's Birthday
The Use of Public Taxes
Bond Issues
National F.F.A. Week
Fish Fry
Steak Fry
School Plays
Election of Officers
Installation of Officers
F.F.A. Banquet
Future Homemakers of America
Family Budgets
Star Farmers
The Social Security Act
Radio Publicity
Newspaper Publicity
Law Enforcement
Enacting Laws
Community History
The Problem of Tariff
Famous Scientists
Public Speaking
Parliamentary Procedure
Chapter Program of Work
Chapter Report for the Year

Fourth Year

American Farmer Degree
Automobile Insurance
Selecting Clothes for Social Affairs
Arbor Day
Memorial Day
Making Wills
National F.F.A. Week
County Health Units
Barbecue
Picnic
Candy Pulling
Chapter Debate
F.F.A. Banquet
Farming in Other Lands
Protecting Wild Game
Public Speaking
Parliamentary Procedure
Patent Laws
Copyright Laws
Camping Trips
Educational Tours
Registering and Voting
Former Members Night
The National F.F.A. Foundation
The National F.F.A. Camp
Health and Accident Insurance
Rural Appreciation
F.F.A. Chapter Program of Work
F.F.A. Annual Report

Rotobeater provided by F.F.A

(Continued from Page 210)

shafts in older model tractors. Another year we are planning to have a tractor to operate with the rotobeater in hopes of giving more satisfactory coverage.

The services the boys performed with this machine were many besides hardening off green potatoes so they could be dug. We chopped up and returned green material back into the soil as organic matter. Also in cases of weedy or grassy pieces the amount of time and cost saved by using this machine was many times the actual cost. In one particular case the acreage had practically been given up as a loss, but after the use of the rotobeater it was dug fairly easily. Although there are many advantages of this machine, many farmers say they will continue to use the machine if for no other reason than that it returns organic matter to the soil.

In all we operated our machine on one hundred seventy-one acres which gave us a gross return of $855, just equalling the cost of the machine. The chapter, encouraged by their success with this enterprise, is examining the possibility of other types of machinery to be operated along similar lines.

Through the medium of this machine the boys learned many lessons less tediously and painfully than in the classroom. They learned about surveying the need for such work, financing, planning the work, the actual operation and maintenance. They also learned the advantage of cooperative group action. Our first project, indeed, was successful financially, educationally and certainly performed a great service to the community.

Rotobeater provided by the F.F.A. chapter in operation at Lee, Maine

Lawton, Oklahoma F.F.A. members improve their livestock

MARVIN BICKET, Teacher, Lawton, Oklahoma

Marvin Bicket

LAWTON, Oklahoma, the home of Lawton Future Farmers of America, is a city of 40,000 population located on the rolling plains of southwest Oklahoma in the shadows of the famous Wichita mountains.

The department of vocational agriculture was started at Lawton six year ago. The F.F.A. chapter was immediately organized and the members soon started a cooperative plan of livestock improvement which has brought better livestock in the community, more money in members and farmers pockets and has won national recognition for champion animals.

Registered Sires Used

Hereford, Angus and Shorthorn beef cattle, Jersey and Holstein dairy cattle, Hampshire, Duroc, Berkshire, Chester White, Poland China, and Spotted Poland China hogs, Southdown, Shropshire, and Hampshire sheep are all a part of this cooperative breeding program. Registered sires selected strictly upon their individual merit and pedigree are used on every female in this program.

When a student enters vocational agriculture plans are immediately and carefully made for his project program between himself, parent and the instructor. If livestock production is to be a part of his program, a study is made of what livestock can best be produced on his home farm or if livestock is already a part of the farming program, a study is made on how it can best be improved.

If the type of livestock to be used in the student's program is a new enterprise on the home farm other F.F.A. members, local adult breeders or state breeders of the type of livestock needed are contacted to make the desired purchases. He then molds the new enterprise not only into the program of his home farm, but also into the F.F.A. Cooperative Livestock Improvement Plan.

If livestock is already established on the home farm and improvement through use of better sires, culling and selection of females is needed this member also blends his program so that he too can participate in the livestock improvement plan.

There is in use at the present time in the Lawton F.F.A. Cooperative Livestock Plan 15 registered beef and dairy bulls, 9 registered rams, and 6 registered boars. These sires are owned individually by F.F.A. members, their parents, or cooperating breeders in the community or by the F.F.A. chapter.

Owners Make Sires Available to Others

When the instructor of vocational agriculture assists student, parents or other cooperating farmers in purchasing a sire it is with the agreement that the sire may be used by the F.F.A. mem-

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Members of school board and superintendent inspect barrows owned by Donald Cowley, Lawton, Oklahoma. Center pig was first-place F.F.A. fat Hampshire barrow at the American Royal Livestock Show, Kansas City, Missouri, 1948. Persons in picture—Roy Bert, Mack Brandon, John Shoemaker, (Supt.) Dave Sly, and Donald Cowley.

Shawnee Mission Chapter

(Continued from Page 209)

lighted to have F.F.A. visitors and personally assists in showing groups through his school. This year Mr. McEachen was glad to announce to his visitors that a recent bond election will authorize a $2,640,000 addition to his high school plant.

Adviser Garver is ably assisted in directing the cooperation of the Shawnee-Mission chapter with the National F.F.A. Conventions by Mrs. H. D. Garver. Mr. and Mrs. Garver are probably more widely known among local, state and national F.F.A. leaders than are any other teacher of vocational agriculture and wife in America. Engaging smiles, an honest desire to be of service, and a willingness to tackle any job, no matter how difficult, are traits that endear the Garvers to their thousands of friends and to the hundreds of new friends made each year at the National F.F.A. Convention.

District leadership school

(Continued from Page 209)

10. Roll call of chapters: Special three minute reports on the following. President or Vice-President—Program of Work—How Build? Committee Responsibilities and Check up on Performance? Calendar? School Time: Outstanding Activity Executed Past Year—Planned for Current Year. By the following chapters: Randolph, Solomon, Haddam, Chapman, Manhattan, Clay Center.

    Reporter—How get F.F.A. recognition in school, community, and state? How bring news of activities of other chapters before local group? By the following chapters: Waterville, Washington, Longford, Junction City, Clifton, Morrowville.

    Secretary—Chapter records; Plan for acquainting members with State and National F.F.A. activities? Planning and executing chapter meetings. By the following chapters: Clay Center, Washington, Barnes, Randolph, Junction City, Hope.

    Treasurer—Plans for raising chapter funds: Financing F.F.A. Parent-Son Banquet. By the following chapters: Abilene, Linn, Frankfort, Miltonvale, Waterville, Greenleaf.

    BE PREPARED TO DISCUSS: Methods used in acquainting members with the Future Farmers of America Organization; How to improve ritualistic proficiency in Green Hand and Chapter Farmer Degree work; How you train your officers group; Plan of teaching members parliamentary procedure; How to improve F.F.A. Leadership Schools.

11. Awards:

Host chapter will look after local arrangements such as: Welcome from Superintendent or Principal, Meeting Place, Arrangements for Eats, F.F.A. Paraphernalia. — The Kansas Future Farmers, November, 1948.

Evaluating outcomes

(Continued from Page 207)

ference is in the degree of establishment in farming, and in the degree of managerial responsibility. Evaluative criteria must necessarily be very similar. There are, however, certain measures of farming proficiency included in the adult farmer areas that are not included in the criteria for evaluating outcomes in the young farmer group. They are arranged in six areas:

I. Efficiency of Production
  - A. Livestock production levels
    1. Return over feed costs
    2. Return per $100 feed
  - B. Crop yields
    1. Comparative community and county averages
    2. Former yields on own farm
  - C. Labor efficiency
    1. Production man units per worker

II. Farm Organization
  - A. Crops
    1. Definite crop rotation
    2. Per cent of land in tillable crops
  - B. Livestock
    1. Production livestock units per 100 acres
  - C. Power, crop and livestock machinery and equipment
    1. Relative expense per work unit
    2. Adequacy
  - D. Size of business
    1. Measured by production work units

III. Financial Progress
  - A. Net worth
  - B. Financial returns

IV. Approved Farm Practices
  - A. Practices that are important to the farmers total program
  - B. Practices that will result in better conduct of various enterprises
  - C. Practices that will improve management

V. Improved Farm Living
  - A. Farmstead improvement
  - B. Home conveniences
  - C. Educational levels
    1. Magazines
    2. Papers
    3. Radio
  - D. Educational Program of Family
    1. Evening schools
    2. F.F.A. and 4-H
    3. Young farmers

VI. Participation in Community Activities
  - A. Church
  - B. Farm Bureau and other organizations
  - C. Cooperative activities

The foregoing criteria are indeed very similar to those described for the young farmer group. As before, a close relationship between evaluation and objectives is necessary to measure the outcomes. It must be remembered, however, that none of the measures or criteria in and of themselves constitute evaluation. They merely provide the data with which to evaluate a total farming program on an individual farm. In the case of the more advanced students or adults, the criteria represent measures which a good farm manager might use in determining the quality of his management decisions.

Upgrading instructors

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more teachers each year who are enrolled in graduate courses, the instructors are forced to face some of the issues their students face. They see the great diversity of conditions under which the students must work. They are obliged to play a part of the time on the other team's grounds. These experiences are a fine antidote to the dogmatism and cock-sureness which so often develops in professors who teach graduate courses year after year without leaving the campus.

Democratic practices are required in working with teachers in graduate courses. In our summer-session courses, the students meet for one hour each day under the chairmanship of their instructor and another hour each day under an elected chairman, the instructor serving as a consultant. Students help to plan and evaluate their courses.

Surely there is no more pleasant form of teaching than graduate work with teachers under the plan we follow. The relationship between instructor and students is almost purely a voluntary one, since the students are not greatly concerned about credits or grades. When a visit is made to a school, the instructor, the local teacher and the local administrators work cooperatively upon the problems the agriculture department faces. The university representative has no authority over them and the local people show little restraint in discussing their situation.

The teachers who take graduate courses include many of the more experienced ones who are located in the better schools of the state, but there are also many young teachers who are working under conditions far from ideal, so that the instructors in graduate courses deal with a fairly representative set of situations.

Visitation of Graduates

Through our visitation of graduate students we have come to know well many of the school administrators of the state. Formerly we knew relatively few of them whom we had met through teacher placement, in our student-teaching centers, and in section meetings of teachers and administrators. We are inclined to believe that we can influence agricultural education almost as much through the administrators as we can through dealing directly with their teachers.

It is clear that educating teachers in service is more important than preservice education. We have about 460 teachers in service, but only about 200 students in the university who are preparing to teach vocational agriculture. The period during which an individual in service requires assistance may be 20 to 30 years, while the period during which we have active contacts with preservice trainees is only two to three years. Furthermore, it is the teachers in service who set the pattern and create the climate in which the new teachers must work. No matter what we teach our students as undergraduates, it may be quickly discarded by them after a few contacts with teachers in the field. Even to make preservice education effective, we must provide effective in-service education.

I have said little about the education of teachers in their first year of teaching a special and crucially important problem which we are now attacking. Mr. L. J. Phipps of our staff has been studying this problem and will have an exhaustive report upon it to release soon. It indicates the many weaknesses our new teachers have when they are graduated. It showed some of the things which can be accomplished through a period of internship following graduation. We are not, however, in a position to provide internships for very many students as yet. Other means must be found of working with first-year teachers. This fall we have held 13 section conferences, each lasting five to six hours. Only three new teachers in the sections reached have failed to take advantage of them. Some of our new teachers are in extra-mural and field-studies courses. We are not sure how best to deal with this group or what part graduate courses may have in our work with them.

It is clear that a comprehensive program of teacher education, which provides adequately for in-service education, preservice education, the preparation of subject-matter and teaching aids, and the accomplishment of research takes a large staff. We have seven full-time men and three part-time men in teacher training in agriculture. These are not enough to do the job we now have and the job is growing. It is easier, however, to get staff for teaching graduate courses than for some other necessary functions, so that its likely that our graduate work will continue and that additions in staff will be provided as needed. Because this is the situation, we may have to try to accomplish through graduate courses training-in-service functions which might better be performed in some other way.

I have indicated that we teach only a limited range of graduate courses in agricultural education, about half the number a few institutions provide. We do this in part because we want to and in part because university authorities object to indefinite ramifications of courses. We do not have and probably will not have courses in the teaching of farm mechanics, the management of F.F.A. chapters, or the guidance of agricultural students. These topics are included in our more general courses, but we expect to accomplish most with short courses and conferences dealing with these special subjects.

Instructors in graduate courses in agricultural education are caught between the demands of their graduate colleges and the demands of teachers for assistance that is immediately practical; it is hard to find a position acceptable to both. Perhaps schools of education will some day become professional schools and will be allowed to set their own standards. These would certainly be more acceptable to teachers.

Finally, I am convinced that anyone engaging in graduate work in agricultural education for teachers in service must do so very seriously and must provide large blocks of time for it. It is not a sideline of undergraduate education. Competence and preparation on the part of the instructors are demanded by the students. Participation in graduate courses is optional, and credits have to be earned.

National Vocational Agriculture Teachers Association

NORMAN F. KAHL, Barron, Wisconsin and W. S. MURRAY, Cameron, Wisconsin*

A national association for teachers of vocational agriculture was organized during the A.V.A. Convention which was held at Milwaukee, Wisconsin, November 30 to December 4, 1948. The groundwork for the organization was laid at the previous A.V.A. Convention held at Los Angeles, California in 1947.

Mr. L. E. Cross, of San Jose, California, chairman of the agriculture section at the 1948 convention and one of the promoters of the organization was elected president Jess Smith, of Lake Geneva, Wisconsin, was elected treasurer. An executive-secretary will be chosen later. For purposes of administration the states were divided tentatively into six regions, with a vice-president designated for each region. The states making up the areas and the vice-presidents for each area are noted herewith. (Two vice-presidents will be elected annually hereafter).

AREA I. Leroy Bunnell, Tremonton, Utah.
Washington, Oregon, California, Montana, Wyoming, Utah, Arizona, Idaho, and Nevada.

AREA II. P. A. Woodul, Portales, New Mexico.
Colorado, New Mexico, Kansas, Oklahoma, and Texas.

AREA III. Neil Johnston, Clarinda, Iowa.
North Dakota, South Dakota, Nebraska, Minnesota, Iowa, and Wisconsin.

AREA IV. J. W. Matthews, Shabbona, Illinois.
Missouri, Illinois, Indiana, Michigan, Ohio, and Kentucky.

AREA V. A. C. Hale, Camden, Arkansas.
Arkansas, Louisiana, Mississippi, Tennessee, Alabama, North Carolina, South Carolina, Georgia, and Florida.

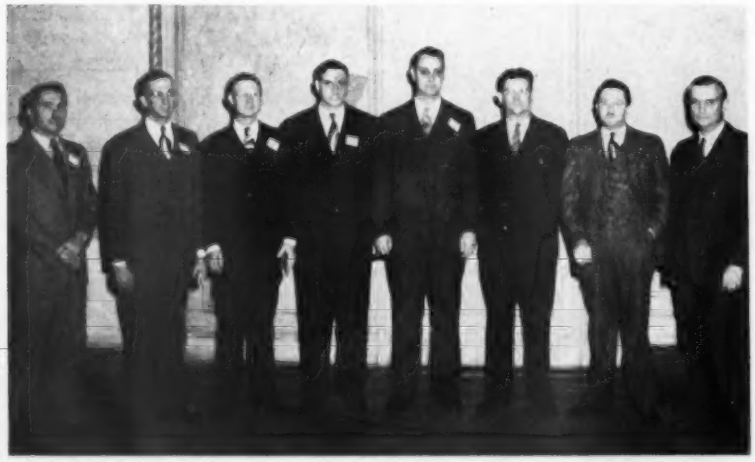
AREA VI. C. W. Seabold, Reisterstown, Maryland.
Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, Maryland, New Jersey, Delaware, Virginia, and West Virginia.

A tentative constitution was adopted and will be distributed after being revised. The purposes of the National Vocational Agriculture Teachers Association as as follows:

1. To assume and maintain an active national leadership in the promotion and furtherance of agricultural education.
2. To bring together all teachers of vocational agriculture through membership in a national organization devoted exclusively to their interests.
3. To provide an opportunity for agricultural teachers to discuss all problems affecting agricultural education on a national level.
4. To serve state or local organizations of agricultural teachers in the solution of any problems which may arise.
5. To investigate and arrange for special discounts, purchasing advantages, or other business arrangements which may be of interest to teachers or associations.
6. To have and possess all the rights, powers, and privileges given to corporations by common law.
7. To cooperate with the American Vocational Association in furthering the cause of all vocational education.

*Mr. Kahl is president and Mr. Murray is secretary of the Wisconsin Association.

The Harrison, Nebraska, F.F.A. netted $200 from a chapter potato project last summer.



Officers of the National Vocational Agriculture Teachers Association. Left to right: P. A. Woodul, Portales, New Mexico, Vice-President Area II. Leroy Bunnell, Tremonton, Utah, Vice-President Area I. A. C. Hale, Camden, Arkansas, Vice-President Area X. Jess S. Smith, Lake Geneva, Wisconsin, Treasurer. Lionel E. Cross, San Jose, California, President. Neil Johnston, Clarinda, Iowa, Vice-President Area III. C. W. Seabold, Reisterstown, Maryland, Vice-President Area VI. L. J. Basset, Monroe, Michigan, Alternate Area IV. (Absent J. W. Matthews, Shabbona, Illinois, Vice-President Area IV.

OUR LEADERSHIP

Jesse A. Taft

JESSE A. TAFT is Supervisor of Agricultural Teacher Training in Massachusetts, having taken over the position with the retirement of Franklin B. Heald on February 1, 1946. Prior to his appointment to this position Mr. Taft had been in the service for 55 months, 30 of which were spent overseas.

Mr. Taft graduated from the Massachusetts Agricultural College (now University of Massachusetts) in 1930 with a B.S. Degree, majoring in pomology. Thereafter he was appointed Instructor of Horticulture at Arms Academy, Shelburne Falls, as assistant to John G. Glaven, now Supervisor of Agricultural Education for Massachusetts. In 1934 Mr Taft was employed to establish a department of vocational agriculture at the Barnstable High School, Hyannis (Cape Cod), Massachusetts, where he remained head of the two-man department until June, 1941.

Among other responsibilities Mr. Taft is serving as Executive Secretary of the Massachusetts Association of Future Farmers of America and as secretary of the State Veterans Agricultural Advisory Committee. He is a member of the Teacher Education Committee of the North Atlantic Region.

Mr. Taft received the M.S. Degree from the University of Massachusetts in June, 1948.

Lawton members improve livestock

(Continued from Page 212)

bers, parents or other cooperators who need the service of the particular animal. A nominal fee or an exchange of service on females may be made or if and when the animal is to be sold members of the cooperative plan will be notified of plan of sale and given first option. Often it has been possible for two cooperator's to trade sires thus enabling them to the use of two different top sires at the purchase price of one.

Most members keep a younger or junior herd sire which is selected from their own herd or selected by purchase from other breeders to replace senior sires in case of accident or death, which plan also gives them an opportunity to prove the junior sire before he is put at the head of the herd.

Since this cooperative livestock improvement plan has been used Lawton F.F.A. members and cooperators have demanded top prices.

Champion and reserve champion animals have been bred and exhibited in state and national shows from the Fort Worth, Texas show to the International Livestock Show at Chicago. The Lawton chapter gives much credit to the cooperative breeding program for having an average of 4.3 projects per member, and for being designated a "gold metal" chapter for 1947-48.

OFFICE OF EDUCATION, WASHINGTON, D. C.

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d—directors s—supervisors as—assistant supervisors
rs—regional supervisors ds—district supervisors FFA—specialist FFA
t—teacher trainers it—itinerant teacher trainers
rt—research workers Nt—Negro teacher trainers
sms—subject matter specialists fms—farm mechanics specialists

Note—Please report changes in personnel for this directory to Dr. W. T. Spanton, Chief, Agricultural Education, U. S. Office of Education.

ALABAMA
d—R. E. Cammack, Montgomery
s—J. C. Cannon, Montgomery
as—L. L. Sellers, Auburn
as—H. F. Gibson, Auburn
as—T. L. Faulkner, Auburn
as—H. R. Culver, Auburn
as—B. P. Dilworth, Auburn
as—H. W. Green, Auburn
as—J. L. Dailey, Auburn
t—S. L. Chesnutt, Auburn
t—R. W. Montgomery, Auburn
t—D. N. Bottoms, Auburn
Nt—Arthur Floyd, Tuskegee
Nt—F. T. McQueen, Tuskegee
Nt—R. L. Donald, Tuskegee

ARIZONA
d-s—J. R. Cullison, Phoenix
sms—Halbert W. Miller, Phoenix
t—R. W. Cline, Tucson
t—W. A. Schafer, Tucson

ARKANSAS
d—J. M. Adams, Little Rock
s—C. R. Wilkey, Little Rock
as—S. D. Mitchell, Little Rock
as—J. R. Tucker, Little Rock
as—John Bell, Little Rock
ds—T. A. White, Monticello
ds—O. J. Seymour, Arkadelphia
ds—J. A. Niven, Russellville
ds—George Sullards, Jonesboro
t—Roy W Roberts, Fayetteville
t—LaVan Shoptaw, Fayetteville
Nt—L. R Gaines, Pine Bluff

CALIFORNIA
d—Wesley P. Smith, Sacramento
s—B. J. McMahon, San Luis Obispo
rs—B. R. Denbigh, Los Angeles
rs—Howard F. Chappell, Sacramento
rs—A. G. Rinn, Fresno
rs—J. C. Gibson, Los Angeles
rs—G. A. Hutchings, San Luis Obispo
rs—M. K. Luther, San Jose
rs—R. H. Pedersen, Fresno
rs—J. Everett Walker, Chico
t—S. S. Sutherland, Davis
t—H. H. Burlingham, San Luis Obispo
sms—Geo. P. Couper, San Luis Obispo
sms—J. I. Thompson, San Luis Obispo
sms—John D. Lawson, San Luis Obispo

COLORADO
d—E. C. Comstock, Denver
s—A. R. Bunger, Denver
as—Irwin C. Elliott, Denver
t—R. W. Canada, Ft. Collins
t—E. J. F. Early, Ft. Collins

CONNECTICUT
d—Emmett O'Brien, Hartford
s—R. L. Hahn, Hartford
t—W. Howard Martin, Storrs

DELAWARE
d—R. W. Heim, Newark
s—W. L. Mowlds, Dover
t—Paul M. Hodgson, Newark
Nt—Wm. R. Wynder, Dover

FLORIDA
d—T. D. Bailey, Tallahassee
s—Harry Wood, Tallahassee
t—E. W. Garris, Gainsville
t—W. T. Loften, Gainsville
ds—J. G. Smith, Gainsville
ds—F. L. Northrop, Gainsville
ds—T. L. Barrineau, Jr., Tallahassee
Nt—L. A. Marshall, Tallahassee
Nt—G. W. Conoly, Tallahassee

GEORGIA
d—M. D. Mobley, Atlanta
s—T. G. Walters, Atlanta
as—George I. Martin, Tifton
as—C. M. Reed, Carrollton
as—J. N. Baker, Swainsboro
as—J. H. Mitchell, Athens
t—John T. Wheeler, Athens
t—R. H. Tolbert, Athens
t—G. L. O'Kelley, Athens
t—W. R. Brown, Athens
sms—A. O. Duncan, Athens
FFA—T. D. Brown, Atlanta
FFA—A. L. Morris, Atlanta
Nt—Alva Tabor, Fort Valley
Nit—S. P. Fugate, Fort Valley

HAWAII
s—W. H. Coulter, Honolulu, T. H.
as—Riley Ewing, Honolulu, T. H.
t—F. E. Armstrong, Honolulu, T. H.

IDAHO
d—William Kerr, Boise
s—Stanley S. Richardson, Boise
as—E. L. Lovell, Pocatello
t—H. A. Winner, Moscow
t—Dwight L. Kindschy, Moscow

ILLINOIS
d—Ernest J. Simon, Springfield
s—J. E. Hill, Springfield
as—J. B. Adams, Springfield
as—A. J. Andrews, Springfield
as—H. M. Strubinger, Springfield
as—P. W. Proctor, Springfield
as—H. R. Damisch, Springfield
t—H. M. Hamlin, Urbana
t—G. P. Deyoe, Urbana
t—J. N. Weiss, Urbana
t—L. J. Phipps, Urbana
sms—Melvin Henderson, Urbana
sms—H. J. Rucker, Urbana
sms—W. H. Wiit, Urbana

INDIANA
d—Deane E. Walker, Indianapolis
s—H. B. Taylor, Indianapolis
t—B. C. Lawson, Lafayette
t—Ralph Bentley, Lafayette
it—K. W. Kilts, Lafayette
it—H. W. Leonard, Lafayette
it—E. E. Clanin, Lafayette

IOWA
s—H. T. Hall, Des Moines
as—M. Z. Hendren, Des Moines
as—G. F. Barton, Des Moines
t—Barton Morgan, Ames
t—John B. McClelland, Ames
t—J. A. Starrak, Ames
t—T. E. Sexauer, Ames

KANSAS
d—C. M. Miller, Topeka
s—L. B. Pollom, Topeka
t—A. P. Davidson, Manhattan
it—L. F. Hall, Manhattan
it—Loren Whipps, Manhattan

KENTUCKY
d—Watson Armstrong, Frankfort
s—E. P. Hilton, Frankfort
as—B. G. Moore, Frankfort
as—S. S. Wilson, Frankfort
as—Floyd Cox, Lexington
as—W. C. Montgomery, Frankfort
t—Carsie Hammonds, Lexington
t—W. R. Tabb, Lexington
t—Stanley Wall, Lexington
Nt—P. J. Manly, Frankfort

LOUISIANA
d—J. R. Gamble, Baton Rouge
s—W. J. Parent, Baton Rouge
ds—I. N. Carpenter, Baton Rouge
ds—C. P. McVea, Baton Rouge
ds—Gordon Canterbury, Baton Rouge
t—Roy L. Davenport, Baton Rouge
t—J. C. Floyd, Baton Rouge
t—M. C. Garr, Baton Rouge
t—Harry Braud, Baton Rouge
FFA—Delmar Walker, Baton Rouge
fms—Curtis Jacobs, Baton Rouge
t—A. Larriviere, Lafayette
t—A. A. LeBlanc, Lafayette
Nit—M. J. Clark, Scotlandville
Nt—C. H. Chapman, Scotlandville
Nit—E. C. Wright, Scotlandville

MAINE
d—Morris P. Cates, Augusta
s—John A. Snell, Augusta
as-t—Wallace H. Elliott, Orono

MARYLAND
d—John J. Seidel, Baltimore
s—Harry M. MacDonald, Baltimore
t—Arthur M. Ahalt, College Park
Nt—J. A. Oliver, Princess Anne

MASSACHUSETTS
d—M. Norcross Stratton, Boston
s—John G. Glavin, Boston
t—Jesse A. Taft, Amherst
t—Charles F. Oliver, Amherst

MICHIGAN
d—Ralph C. Wenrich, Lansing
s—Harry E. Nesman, Lansing
as—Luke H. Kelley, Lansing
as—Raymond M. Clark, Lansing
as—E. A. Lightfoot, Lansing
t—H. M. Byram, East Lansing
t—H. Paul Sweany, East Lansing
t—Guy Timmons, East Lansing
t—Raymond Garner, East Lansing

MINNESOTA
d—Harry C. Schmidt, St. Paul
s—G. R. Cochran, St. Paul
as—W. J. Kortesmaki, St. Paul
t—M. J. Peterson, St. Paul
t—H. W. Kitts, St. Paul

MISSOURI
d—Tracy Dale, Jefferson City
s—C. M. Humphrey, Jefferson City
ds—J. A. Bailey, Jefferson City
ds—Joe Moore, Mt. Vernon
t—G. F. Ekstrom, Columbia
t—C. V. Roderick, Columbia
sms—Joe Duek, Columbia

MISSISSIPPI
d—H. E. Mauldin, Jr., Jackson
s—A. P. Fatherree, Jackson
as—E. E. Gross, Hattiesburg
as—E. W. Holmes, Oxford
as—V. P. Winstead, Morton
as—T. V. Majure, Utica
as—A. E. Strain, Long Beach
t—V. G. Martin, State College
t—J. F. Scoggin, State College
t—O. L. Snowden, State College
t—J. E. Bond, State College
sms—D. W. Skelton, State College
sms—A. E. Stasin, State College
Nt—A. D. Fobbs, Alcorn
Nt—A. G. Gordon, Alcorn

MONTANA
d—Ralph Kouck, Boseman
s—A. W. Johnson, Boseman
as—Arthur B. Ward, Boseman
t—R. H. Palmer, Boseman
t—H. E. Rodeberg, Boseman

NEBRASKA
d—G. F. Liebendorfer, Lincoln
s—L. D. Clements, Lincoln
as—P. W. Deems, Lincoln
t—C. E. Rhoad, Lincoln
t—C. C. Minteer. Lincoln
fms—M. G. McCreight, Lincoln

NEVADA
d—Donald C. Cameron, Carson City
s—John W. Bunton, Carson City

NEW HAMPSHIRE
d—Walter M. May, Concord
s—Earl H. Little, Concord
t—Philip S. Barton, Durham

NEW JERSEY
d—John A. McCarthy, Trenton
s-t—H. O. Sampson, New Brunswick
as-t—O. E. Kiser, New Brunswick
as-t—W. H. Evans, New Brunswick

NEW MEXICO
s—L. C. Dalton, State College
t—Carl G. Howard, State College

NEW YORK
d—A. K. Getman, Albany
s—R. C. S. Sutliff, Albany (acting)
as—W. J Weaver, Albany
as—J. W. Hatch, Buffalo
as—A. E. Champlin, Alfred
t—Roy A. Olney, Ithaca
t—R. E. Hoskins, Ithaca
t—W. A. Smith, Ithaca
t—W. R. Kunsla, Ithaca

NORTH CAROLINA
d—J. W. Smith, Raleigh
s—Roy H. Thomas, Raleigh
FFA—R. J. Peeler, Raleigh
ds—E. N. Meekins, Raleigh
ds—J. M. Osteen, Rockingham
ds—T. H. Stafford, Asheville
ds—T. B. Elliott, Woodland
ds—N. B. Chesnutt, Whiteville
t—Leon E. Cook, Raleigh
t—L. O. Armstrong, Raleigh
t—J. K. Coggin, Raleigh
t—F. A. Nylund, Raleigh
Nt—S. B. Simmons, Greensboro
Nt—C. E. Dean, Greensboro
Nt—W. T. Johnson, Greensboro

NORTH DAKOTA
d—E. F. Riley, Wahpeton
s-t—Ernest L. DeAlton, Fargo
as-t—Shubel D. Owen, Fargo
as-t—Winston H. Dolve, Fargo

OHIO
d—J. R. Strobel, Columbus
s—Ralph A. Howard, Columbus
as—W. G. Weiler, Columbus
ds—E. O. Bolender, Columbus
ds—F. J. Ruble, Columbus
ds—D. R. Purkey, Columbus
t—Ralph E. Bender, Columbus
t—W. F. Stewart, Columbus
t—Harold G. Kenestrick, Columbus
t—R. J. Woodin, Columbus
rt—Ray Fife, Columbus

OKLAHOMA
d-s—J. B. Perky, Stillwater
as—W. R. Felton, Stillwater
ds—Byrle Killian, Stillwater
ds—Hugh D. Jones, Stillwater
ds—Cleo A. Collins, Stillwater
ds—Benton F. Thomason, Stillwater
FFA—Tom Daniel, Stillwater
t—C. L. Angerer, Stillwater
t—Don M. Orr, Stillwater
t—Chris White, Stillwater
t—Robert R. Price, Stillwater
t—C. E. Kinney, Stillwater
Nit—D. C. Jones, Langston

OREGON
d—O. I. Paulson, Salem
s—Ralph L. Morgan, Salem
as—M. C. Buchanan, Salem
t—H. H. Gibson, Corvallis
t—Henry Ten Pas, Corvallis

PENNSYLVANIA
d—Paul L. Cressman, Harrisburg
s—H. C. Fetterolf, Harrisburg
as—V. A. Martin, Harrisburg
t—Henry S. Brunner, State College
t—William F. Hall, State College
t—C. S. Anderson, State College
t—David R. McClay, State College
t—Glenn Z. Stevens, State College

PUERTO RICO
d—L. Garcia Hernandes, San Juan
s—Nicholas Mendes, San Juan (on leave)
s—Samuel Molinary, San Juan (acting)
as—Rafael Muller, San Juan
as—Juan Acosta Henriques, San Juan
ds—Frederico Carbonell, San Juan
ds—Juan Melendes, Cayey
ds—Gregorio Mendes, Arecibo
ds—Nicolas Hernandes, Aquadilla
t—Juan Robles, Mayagues

RHODE ISLAND
d-s—George H. Baldwin, Providence
t—Everett L. Austin, Providence

SOUTH CAROLINA
d—Verd Peterson, Columbia
s—R. D. Anderson, Columbia
as—W. E. Gore, Columbia
ds—W. M. Mahony. Honea Path
ds—W. R. Carter. Walterboro
ds—F. L. Barton, Chester
ds—C. G. Zimmerman, Florence
t—J. B. Monroe, Clemson
t—B. H. Stribling, Clemson
t—T. E. Duncan, Clemson
t—F. E. Kirkley, Clemson
t—W. C. Bowen. Clemson
t—T. A. White, Clemson
Nt—Gabe Buckman, Orangeburg

SOUTH DAKOTA
t—H. S. Freeman, Pierre
s—H. E. Urton, Pierre
t—Stanley Sundet, Brookings

TENNESSEE
d-s—G. E. Freeman, Nashville
as—J. W. Brimm, Nashville
ds—H. N. Parks, Gallatin
ds—L. A. Carpenter, Knoxville
ds—Ben Douglas, Jackson
ds—S. L. Sparks, Nashville
t—N. E. Fitzgerald, Knoxville
t—B. S. Wilson, Knoxville
rt—A. J. Paulus, Knoxville
rt—E. B. Knight, Knoxville
Nt—W. A. Flowers, Nashville

TEXAS
d—W. E. Lowry, Austin
s—Robert A. Manire, Austin
as—R. Lano Barron, Austin
as—George H. Hurt, Austin
ds—O. T. Ryan, Lubbock
ds—Vannoy Stewart, Commeree
ds—C. D. Parker, Kingsville
ds—A. B. Childers, Mart
ds—O. M. Holt, College Station
ds—W. E. Williams, Alpine
ds—J. B. Payne, Stephenville
ds—L. I. Samuel, Arlington
ds—J. A. Marshall, Nacogdoches
ds—T. R. Rhodes, Huntsville
t—E. R. Alexander, College Station
t—Henry Ross, College Station
t—W. W. McIlroy, College Station
sms—W. A. Sherrill, College Station
t—J. L. Moses, Huntsville
t—Ray L. Chappelle, Lubbock
t—T. L. Leach, Lubbock
t—S. V. Burks, Kingsville
it—E. V. Walton, College Station
it—G. H. Morrison, Huntsville
it—F. B. Wines, Kingsville
it—L. M. Hargrave, Lubbock
it—Feral M. Robinson, Huntsville
it—Ray Epps, Huntsville
sms—Kyle Leftwich, Huntsville
Nt—E. M. Norris, Prairie View
Nt—O. J. Thomas, Prairie View
Nit—E. E. Collins, Texarkana
Nit—S. E. Palmer, Tyler
Nit—Gus Jones, Caldwell
Nit—Wardell Thompson, Prairie View
Nit—Paul Rutledge, Palestine

UTAH
d-s—Mark Nichols, Salt Lake City
as—Elvin Downs, Salt Lake City
t—L. R. Humpherys, Logan

VERMONT
d—John E. Nelson, Montpelier
s—C. D. Watson, Burlington
as—H. R. Cushman, Burlington
t—James E. Woodhull, Burlington

VIRGINIA
d—Richard N. Anderson, Richmond
s—F. B. Cale, Richmond
as—R. E. Bass, Richmond
as—T. V. Downing, (Forestry), Ivor
ds—W. R. Emmons, Boykins
ds—J. O. Hoge, Blacksburg
ds—W. R. Legge, Winchester
ds—J. C. Green, Powhatan
ds—W. C. Dudley. Appomattox
ds—J. A. Hardy, Pulaski
N-ds—C. B. Jetter, Martinsville
t—H. W. Sanders, Blacksburg
t—C. E. Richard, Blacksburg
t—C. S. McLaren, Blacksburg
t—B. C. Bass, Blacksburg
fms—T. J. Wakeman, Blacksburg
Nt—J. R. Thomas, Petersburg
Nt—A. J. Miller, Petersburg
Nt—R. W. Watson, Petersburg

WASHINGTON
d—H. G. Halstead, Olympia
s—Bert L. Brown, Olympia
as—M. C. Knox, Olympia
as—H. M. Olsen, Olympia
as—J. W. Evans, Olympia
as—J. W. Evans, Olympia
as-t—E. M. Webb, Pullman
as-t—Oscar Loreen, Pullman
fms—Dave Hartsog, Pullman

WEST VIRGINIA
d—John M. Lowe, Charleston
s—H. N. Hansucker, Charleston
as—S. D. McMillen, Charleston
t—D. W. Parsons, Morgantown
t—R. C. Butler, Morgantown
Nt—W. T. Johnson, Institute

WISCONSIN
d—C. L. Greiber, Madison
s—Louis M. Sasman, Madison
t—J. A. James, Madison
it—D. C. Aebischer, Madison
it—Clarence Bonsack, Madison
t—V. E. Nylin, Platteville
t—J. M. May, River Falls

WYOMING
d—Sam Hitchcock, Cheyenne
s—Percy Kirk. Cheyenne
t—Jack Ruch, Laramie